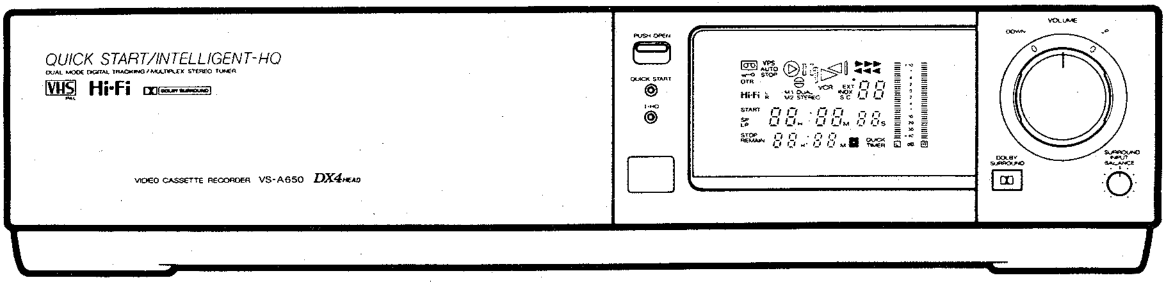
AKAI SERVICE MANUAL



MODEL VS-A650EK

HQ HIGH QUALITY VHS PAL Hi-Fi NICAM DIGITAL STEREO

VIDEO CASSETTE RECORDER

MODEL VS-F600 EA/EK/EO EOG-V/EOH

MODEL VS-A650 EA/EK/EO EOG-V/EOH

SPECIFICATIONS

Format	
EA/EK	VHS standard
EO/EOG-V/EOH	VHS standard (PAL, MESECAM)
Video recording system	Rotary, slant azimuth two-head helical scan system
Rotary heads	4 video heads & 2 audio heads
RF input	
EA	System B, G with monaural or multiplexed 2 channel audio VHF ch 0 - 5, 5A, 6 - 11, UHF ch 21 - 69
EK	System I with monaural or multiplexed 2 channel audio (NICAM) UHF ch 21 - 69
EO	System B, G (PAL,SECAM) with monaural or multiplexed 2 channel audio (NICAM) VHF ch 2 - 4, 5 - 12 UHF ch 21 - 69
EOG-V	System B, G (PAL,SECAM) with monaural or multiplexed 2 channel audio VHF ch 2 - 4, 5 - 12 UHF ch 21 - 69 Cable ch sl' - S3', Sl - S20
EOH	System B, G (PAL,SECAM) with monaural or multiplexed 2 channel audio VHF ch 2 - 4, 5 - 12 UHF ch 21 - 69 Cable ch SI' - S3', S1 - S41
RF output	
EA	System B type modulation VHF ch 0, 1 switchable (preset ch 1)
EK	System I type modulation UHF ch 30 - 39 adjustable (preset ch 36)
EO	Sysyem G type modulation UHF ch 30 - 39 adjustable (preset ch 36)
EOG-V	System G type modulation UHF ch 30 - 39 adjustable (preset ch 36)
EOH	System G type modulation UHF ch 30 - 39 adjustable (preset ch 36)
Recording (line input)	
EA/EK	PAL
EO/EOG-V/EOH	PAL, SECAM (Recorded as MESECAM)
Playback(line output)	
EA/EK	PAL
EO/EOG-V/EOH	PAL, SECAM (MESECAM Tape)
Video	
Line input level	0.5 - 2.0 Vp-p/75 ohms, unbalanced
Line output level	1.0 Vp-p/75 ohms, unbalanced
SN ratio	More than 45dB
Horizontal resolution	More than 250 lines
Audio	(VHS Hi-Fi: 2 ch, Linear: 1 ch)
Line input level	−6 dBs/50 k ohms, unbalanced
Line output level	−6 dBs/ 1 k ohms, unbalanced
Dynamic range	More than 90 dB (VHS Hi-Fi)
Variable output level (VS-A650 only)	+6 dBs/330 ohms, unbalanced (Master volume MAX)
Frequency response	20 - 20,000 Hz (VHS Hi-Fi)
Wow & Flutter	Less than 0.005 % WRMS (VHS Hi-Fi)
Power amplifier(VS-A650 only)	
Power output	12 watts RMS per channel at 8 ohms, THD 1.0 %
Frequency response	6 - 35,000 Hz at 1 watt per channel
Recording/playback time	
SP mode	240 min. with E-240 cassette
LP mode	480.min. with E-240 cassette
Tape speed	
SP mode	23.39 mm/sec
LP mode	11.695 mm/sec
Quick finder	
SP mode	Approx. 2 to 15 times normal speed (7 steps)
LP mode	Approx. 2 to 7 times normal speed (4 steps)
FF, REW time	Approx. 4.5 min. with E-180 cassette
Timer	
Program	8 program / year and QUICK TIMER
Clock reference	Quartz crystal
Display	TV screen & FL (Tape counter, Timer etc.)
Power requirements	
EA/EK	240 V AC 50 Hz
EO/EOG-V/EOH	220 V AC. 50 Hz
Power consumption	
F600EA	35 W
F600EK	37 W
F600EO	39 W
F600EOG-V	44 W
F600EOH	40 W
A650EA	64 W
A650EK	65 W
A650EO	66 W
A650EOG-V	68 W
A650EOH	62 W
Operating temperature	5°C - 40°C
Dimensions	425(W) × 99(H) × 365(D) mm
Weight	
VS-F600	7.0 kg
VS-A650	7.5 kg

Standard accessories

	EA/EO/EOH	EK/EOG-V
Connection cord	1	1
Remote control unit	1	1
TV control sticker	1	—
Function decal sheet	—	1
Batteries for remote control	3	3
Operator's manual	1	1

0 dBs=0.775 V

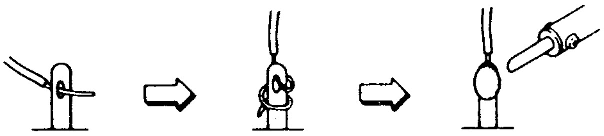
∗ For improvement purposes, specifications and design are subject to change without notice.

∗ Noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. DOLBY and the double-D symbol DD are trademarks of Dolby Licensing Corporation.

★ SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ (*) symbol are critical for safety. Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.
The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal-input/output connectors, etc.) and the earth ground through a resister of 1500 ohms paralleled with a 0.15 µF capacitor, under the unit's normal working conditions. The leakage-current should be less than 0.5 mA rms AC.
The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 Mohms.

MAKE YOUR CONTRIBUTION TO PROTECT THE ENVIRONMENT

Used batteries with the ISO symbol for recycling as well as small accumulators (rechargeable batteries), mini-batteries (cells) and starter batteries should not be thrown into the garbage can.
Please leave them at an appropriate depot. All other household batteries can be thrown out with the household waste.

★ INFORMATION

SYMBOLS OF MODEL NAME FOR PRIMARY DESTINATION

Symbol indicates the destination of the units as listed below.

Symbol	Power Classification	Principal Destination	TV System	
			Color	Broadcast
EA	S	Australia	PAL	B, G
ED	E	China	PAL	D
EDG	E	East Europe	PAL	D, K
EDI	E	China, Hong Kong	PAL	D, K, I
EG	E	Spain, Northern Europe, Other	PAL	B, G
	Y7	Saudi Arabia		
EK	B	U.K.	PAL	I
	Y1	Hong Kong		
EM	E	Middle East	PAL	B, G
	Y7	Saudi Arabia		
EO	E	Holland, Switzerland, Northern Europe	PAL	B, G
	V	Italy		
EOH	E	Holland, Belgium	PAL	B, G
	V	Italy		
EOG	V	W.Germany	PAL	B, G
ES	E	South Africa, Ireland, Hong Kong	PAL	I
EV	E	South-East Asia	PAL	B, G
	U	Middle East, South-East Asia		
	Y1	New Zealand		
	Y7	Saudi Arabia		
EZ	S	New Zealand	PAL	B, G
EGN	E	Middle East	PAL, NTSC	B, G
	Y7	Saudi Arabia		
S	E	France	SECAM	L
SK	E	Latin America, Oceania, SECAM-OIRT	SECAM	K, KI
SEG	E	France, Switzerland	SECAM, PAL	L, B, G
U	A	U.S.A	NTSC	M
	C	Canada		
UM	U	Latin America	NTSC	M
J	J	Japan	NTSC	M

Quick start function

This VCR contains the quick start function.

When a video tape is inserted into this VCR, the QUICK START indicator will automatically light on the front panel. This indicates that the VCR is in the quick start mode and that any function button pressed will operate immediately. If a function button is not pressed within 5 minutes, the indicator will disappear and the VCR will be released from the quick start mode. If the play or record button is pressed after the indicator has disappeared, there will be a short time before the VCR responds.

Automatic functions

This VCR contains the following auto functions.

1. Auto power on
   The VCR power is automatically turned on when the tape is inserted.
2. Auto play
   If the video tape's recording defeat tab has been removed, playback will begin automatically when the tape is inserted into the VCR.
3. Auto tape reject
   If a video tape with its recording defeat tab removed is loaded, the VCR will automatically eject it when the REC or TIMER button is pressed.
4. Power off eject
   Even when the VCR's power is off, pressing the EJECT button will turn the power on and eject the tape. Once ejected the power will be turned off automatically.
5. Auto counter display
   When the display mode is on, the tape counter will be displayed on the TV screen automatically during fast forward or rewind.
6. Auto rewind
   The video tape is automatically rewound when the end of the tape is reached during the play, recording or quick finder forward mode. (Auto rewind will not function during the next mode when it has been set after the timer recording, fast forward or recording mode.)
7. Auto dimmer display
   Between the hours of 23:00 and 6:00, if the VCR is not in use, the FL display is automatically dimmed to a lower light level.

Safety lock system (Remote control only)

This VCR's PLAY button can be locked to prevent access by small children.

This feature can be operated by the remote control only.

To lock: With the VCR POWER ON, press and hold the remote control's stop button for approx. 8 seconds. The safety lock indicator 🔑 will appear on the FL display to indicate that the VCR is locked.

To unlock: Press and hold the remote control's play button for approx. 8 seconds. The safety lock indicator will flash and disappear from the display.

Multi-language display

The language of your choice can be selected for the on-screen display. You can choose any one of the following languages: English, German, Spanish, French, Italian, Dutch. If a language is not selected, the VCR will select English automatically.

1) Press the MENU button on the remote control unit. The MENU list will be displayed on the TV screen.
2) Select the LANGUAGE mode by setting the arrow indicator with the ∨ button. Then press the OK button.
3) The LANGUAGE list will be displayed on the TV screen. Then set the arrow to the desired language with ∨ button.
4) Press the OK button again. The language list screen will disappear after a few seconds and selected language has been set.

Multi speed playback (Remote control only)

The MULTI SPEED ≫, ≪ buttons make playback speed increase or decrease possible with the remote control.

The tape speed can be increased up to 15 times the normal playback speed in the forward or reverse directions.

In the forward direction, the speed can also be decreased to 1/12 of the normal playback speed (2 video heads type) and 1/4, 1/8, 1/12, 1/16, or 1/20th of the normal playback speed (3 or 4 video heads type).

Press the remote control's MULTI SPEED PLAY ≫ or ≪ button repeatedly during playback until you reach the desired speed.

During this mode, no sound will be heard.

Playback picture sharpness adjustment (Remote control only)

Playback picture sharpness adjustment is possible with the remote control.

Press the MENU button and select the CONTROL mode by pressing the OK button during playback.

The CONTROL mode will be displayed on the TV screen. Then choose the PICTURE mode with the ∧ button.

Press the > button to sharpen the picture or press the < button to soften the picture.

INTRO SCAN system (Remote control only)

This VCR is capable of quickly fast forwarding (or rewinding) to the beginning of each recorded segment on a tape, briefly playing back that segment, and then fast forwarding (or rewinding) to the next segment.

This system works in combination with the control signal which is recorded at the beginning of each recorded segment.

Press the INTRO SCAN button on the remote control during the "play", "stop", "fast forward" or "rewind" mode. The VCR will immediately fast forward (or rewind) the tape to the beginning of the program and play back about the first 8 seconds. The VCR will then again fast forward (or rewind) the tape to the beginning of the next recorded segment and again play back the first 8 seconds of the program.

This operation continues until the end of the tape (or the beginning of the tape) or another mode (such as PLAY or STOP)is chosen. During the INTRO SCAN mode, the index number will be displayed on the TV screen and flash on the FL display. This number will advance each time an index code is found. The INDX indicator will light on the FL display during the intro scan mode.

While intro scan is searching for the beginning of the program, the fast forward (or rewind) indicator lights and the play indicator flashes. During the 8 seconds of playback, the play indicator lights and the fast forward (or the rewind) indicator flashes.

INDEX SEARCH System (Remote control only)

Use the index search mode to jump directly to the beginning of any recorded segment, within 99 segments of your starting point, in either the forward or reverse direction. Using the index code (automatically added when tapes are recorded on this VCR) as a guide, The VCR forwards or rewinds the video tape to the segment you have chosen and begins playback automatically. Because the index search feature uses the index code that is added to the tape when programmes are originally recorded, this feature will only operate with tapes that include this index code.

Press the INDEX SEARCH forward or reverse button the number of index codes you wish to skip on the remote control.

The tape will be fast forwarded or quickly rewound to the desired segment and playback will begin automatically.

During the index search mode the index number will be displayed on the TV screen and flash on the FL display. This number will decrease each time an index code is found.

TEST MODE

To set the VCR to the TEST MODE, press and hold both the "POWER" and "EJECT" buttons on the front panel, then plug in the AC power cord.

When the TEST MODE has been engaged, the QUICK START indicator turns on even when the POWER is turned OFF.

The TEST MODE can be cancelled by disconnecting the AC power cord or simply by pressing the SYSTEM RESET button.

1) MEMORIZATION OF THE REFERENCE RF ENVELOPE DETECT VOLTAGE

For the purpose of correct operation of the I.HQ tape tuning system, memorization of the reference RF envelope detect voltage is absolutely necessary.

When the VIDEO HEAD DRUM, PRE AMP PCB or EEP ROM in the OPERATION PCB is replaced for any reason, memorize the reference RF envelope detect voltage according to the following procedure.

1. Set the VCR to the "TEST MODE" and set the tape speed to "SP mode".
2. Make a recording on a blank tape and play it back (use of a high grade tape is not recommended).
3. Reference RF envelope detect voltage data in the memory is displayed in the left 2 digits of the time display part of the FL display and present envelope detect voltage data is displayed in the right 2 digits of the time display part.
4. After the auto tracking is activated, press the "CANCEL" button on the remote control unit. So, present RF envelope detect voltage data will be memorized in the EEP ROM IC.
5. Set the tape speed to the "LP mode" and repeat steps 2 to 4.

2) TRACKING POSITION DISPLAY

In the SP play mode, tracking position data can be displayed on the FL display. Data is displayed in 64 steps (in hexadecimal numbers from "00" to "3F") in the channel number indicator segment on the FL display.

Pressing the "TV/VCR" button sets tracking to the maximum "3F" tracking position directly during playback and pressing the "COUNTER RESET" button sets it to the minimum "00" position.

Pressing the PLAY button during playback sets tracking to the center position automatically.

3) FL DISPLAY CONFIRMATION

By pressing the QUICK TIMER "M" button on the front panel, all indicator segments in the FL display will light up.

4) TIMER FUNCTION CONFIRMATION

During the TEST MODE, the clock's minute display will advance by one every second to facilitate quick timer function confirmation.

5) SUSPENTION OF THE TAPE PROTECTION SYSTEM

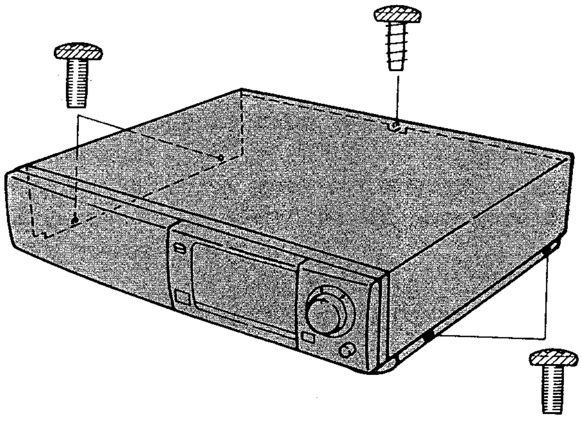
When the VCR is not in the TEST MODE, the REC PAUSE mode will be released after 30 minutes in order to protect the tape. The "STILL" mode will also be released after 5 minutes. During the TEST MODE however, the tape protection system will not operate.

I. DISASSEMBLY

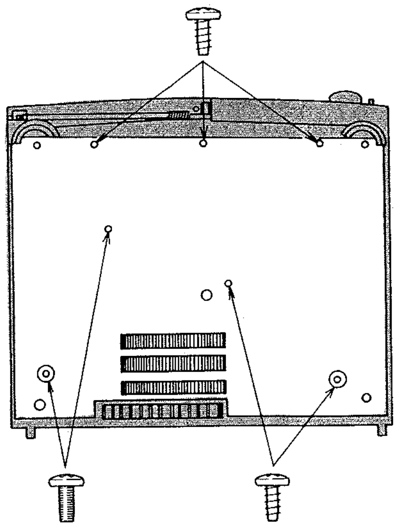
In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the illustrations. Reassemble in reverse order.
When re-attaching the FRONT PANEL, hold the cassette loading slot door in the upright (open) position.

∗ Illustrations of model VS-A650 are employed here.

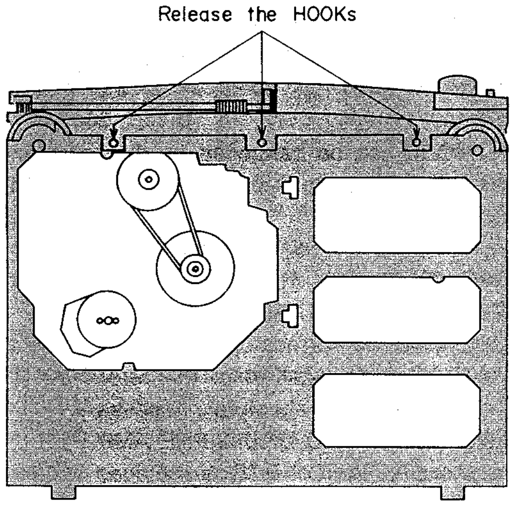
1. Removal of UPPER COVER

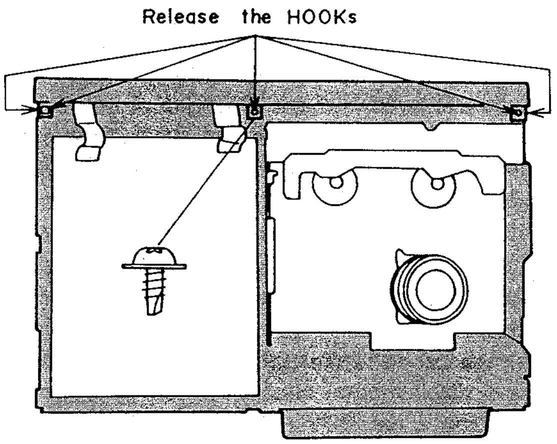


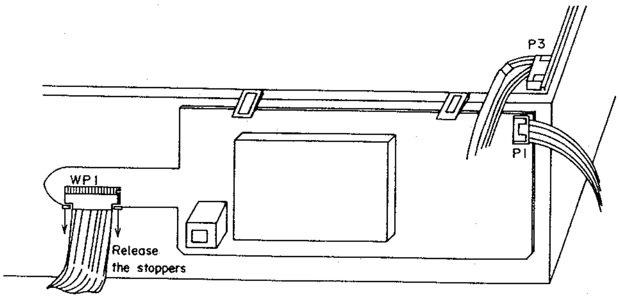
2. Removal of BOTTOM COVER



3. Removal of FRONT PANEL


Release the HOOKs


Release the HOOKs


P3
P1
WP1
Release the stoppers

Disconnect the WP1 flat cable.
Disconnect the P1 and P3 connectors (VS-A650 ONLY)

II. PRINCIPAL PARTS LOCATION

* Photograph employed on this page is of model VS-A650EK.

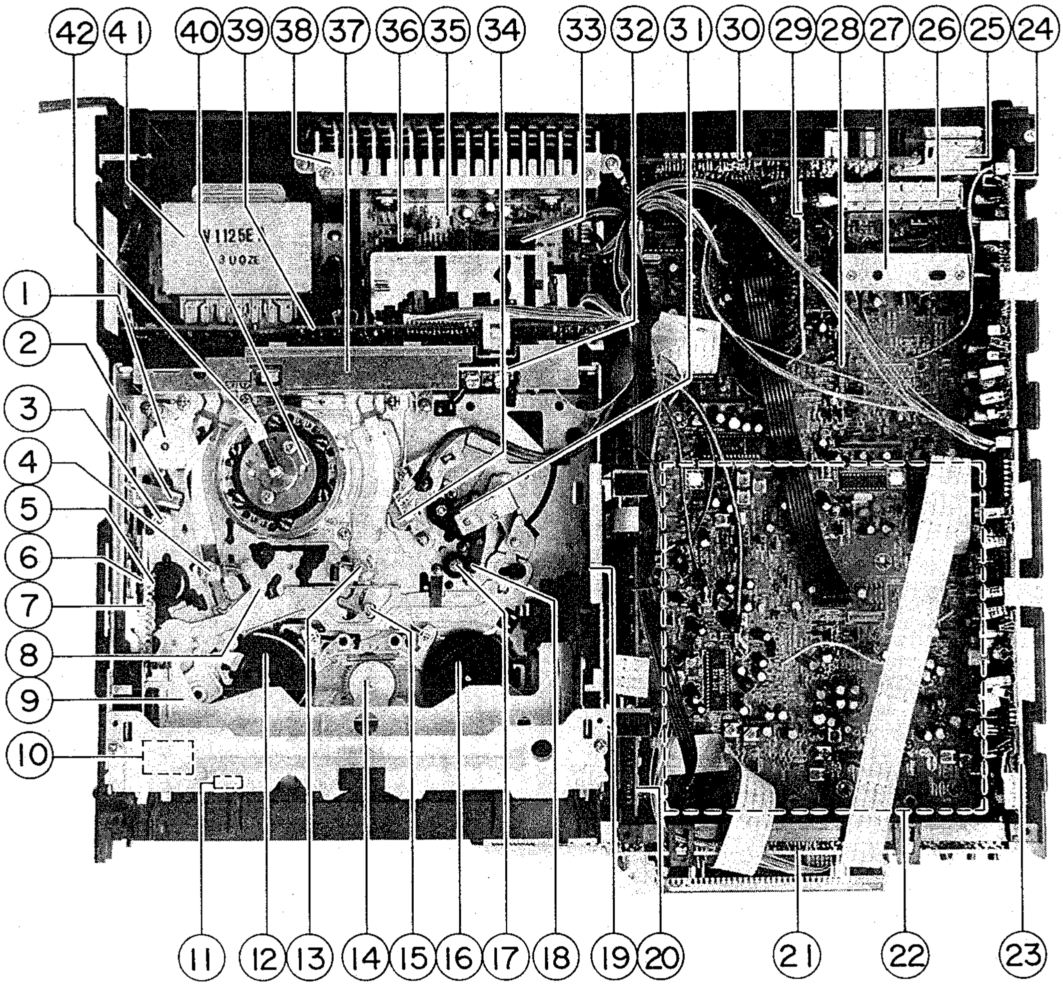


Fig. 3-1 Top view

1. IMPEDANCE ROLLER
2. FULL TRACK ERASE HEAD
3. SUPPLY TAPE GUIDE
4. SUPPLY LOADING LEADER
5. FRONT LOADING GEAR
6. SENSOR (S) PCB (END SENSOR)
7. FRONT LOADING SLIDER
8. TENTION ARM
9. CASSETTE LOAD BLK
10. LOADING MOTOR
11. REC SAFETY SWITCH
12. SUPPLY REEL TABLE
13. TAKE UP LOADING LEADER
14. IDLER PART
15. SENSOR LED
16. TAKE UP REEL TABLE
17. CAPSTAN MOTOR
18. REVIEW ARM
19. SENSOR (T) (START SENSOR)
20. SERVO/SYSCON PCB
21. OPERATION (1) PCB
22. VPT PCB (EOG-V ONLY)
23. SURROUND PCB (VS-A650 ONLY)
24. W.G MULTI PCB (EA/EOG-V/EOH ONLY)
    NICAM PCB (EK/EO ONLY)
25. RF CONVERTOR UNIT
26. TUNER UNIT
27. VIF UNIT
28. MAIN PCB
29. I.HQ (INTELLIGENT HQ) PCB
30. I/O (INPUT/OUTPUT) PCB
31. PINCH ROLLER
32. PRE AMP PCB
33. DIODE (B) PCB (VS-A650 ONLY)
34. AUDIO/CONTROL/S.ERASE HEAD
35. MAIN AMP PCB (VS-A650 ONLY)
36. DIODE (C) PCB (VS-A650 ONLY)
37. PRE AMP SHIELD PLATE (VS-A650 ONLY)
38. HEAT SINK (VS-A650 ONLY)
39. POWER (1) PCB (VS-F600 ONLY)
    POWER (2) PCB (VS-A650 ONLY)
40. UPPER DRUM BLK
41. POWER TRANSFORMER
42. EARTH BRUSH

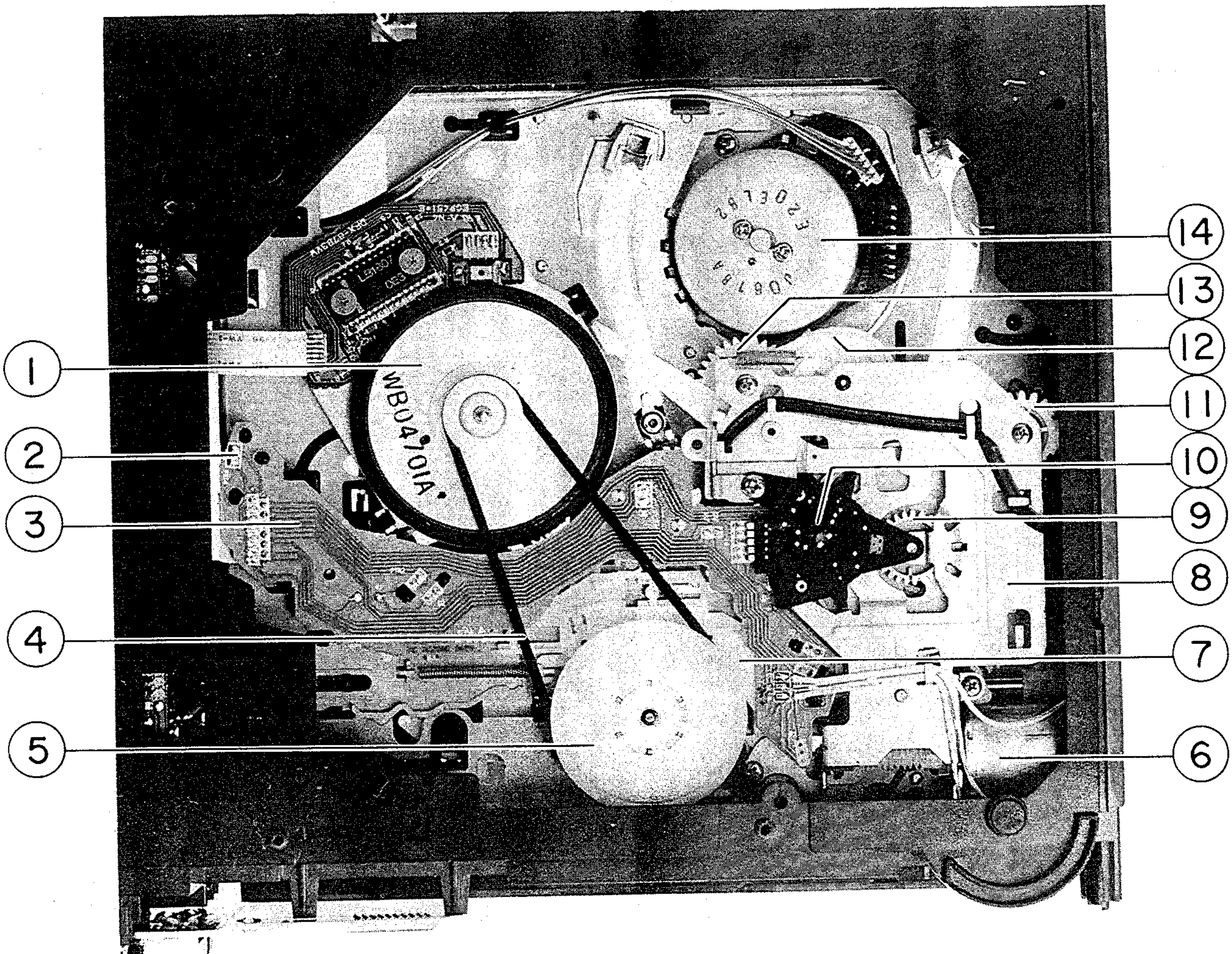


Fig. 3-2 Bottom view

1. CAPSTAN MOTOR BLOCK
2. SENSER (T) (START SENSOR)
3. SENSOR PCB
4. CAPSTAN BELT
5. CLUTCH DISK PART
6. LOADING MOTOR
7. BRAKE SLIDER PART
8. LOADING DRIVE BLOCK
9. CAM SLIDER GEAR
10. MODE SELECT SWITCH
11. FRONT LOADING GEAR
12. TOGGLE (S) GEAR BLOCK
13. TOGGLE (T) GEAR BLOCK
14. DRUM MOTOR BLOCK

III. MAIN COMPONENTS REPLACEMENT

3-1. REMOVAL OF THE EJECTOR BLOCK

* Set the loading mechanism to the "EJECT" position by pressing the EJECT button. Then disconnect the AC power plug from the AC socket before proceeding.

3-1-1. Removal of the CASSETTE LOAD BLK

1) Remove the two Ⓐ screws on the UPPER PLATE as shown in Fig. 3-1 then remove the UPPER PLATE.
2) Lift up the FRONT GUIDE while pushing the CASSETTE LOAD BLK backward, then remove the FRONT GUIDE.
3) Lift up the front side of the CASSETTE LOAD BLK gently then remove it. To avoid damaging the pins of the CASSETTE LOAD BLK and the groove of the MECHA.FRAME, do not add excessive force to the CASSETTE LOAD BLK when removing it.

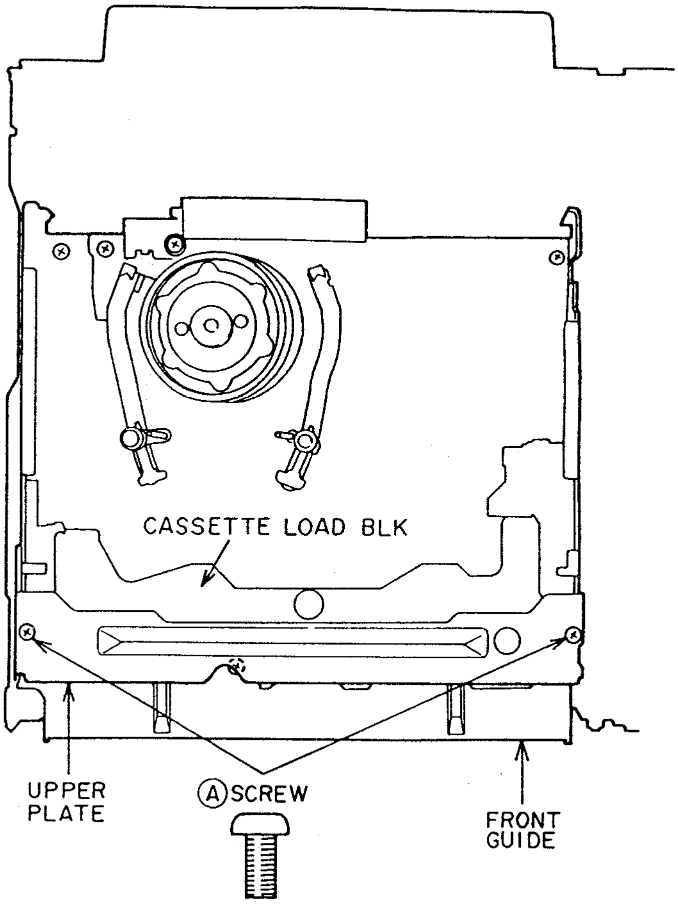


Fig. 3-1

3-1-2. Removal of the LOADING ARM BLK

1) Release the stopper on the right side end of the LOADING ARM BLK's shaft (Refer Fig. 3-2) by pressing the stopper tab with a flat head (—) screwdriver. Then remove the shaft's right end from the bracket.

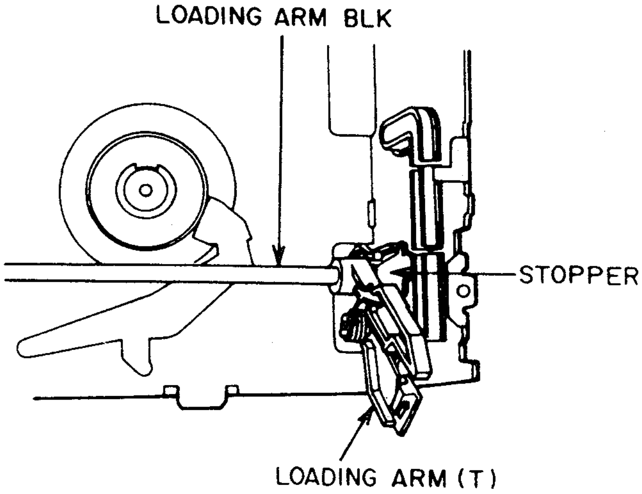


Fig. 3-2

2) Hold the LOADING ARM (T) and turn it 30 degrees clockwise, then pull out the shaft's left end from the bracket. To avoid damaging the JOINT GEAR and EJECT GEAR, take special care when removing. (Refer Fig. 3-3)

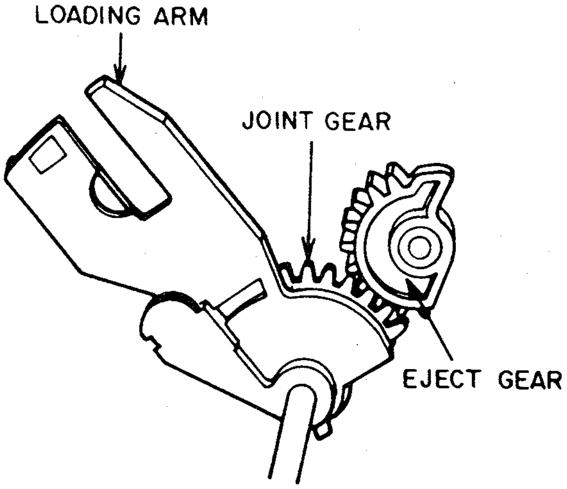


Fig. 3-3

3-2. REMOVAL OF THE SENSOR PC BOARD

* Before proceeding with removal of the SENSOR PCB the loading mechanism must be set to the "unloaded" position (the position where the CAM SLIDER GEAR's groove mark is visible through the hole of the MODE SELECT SW.) as shown in Fig. 3-4.

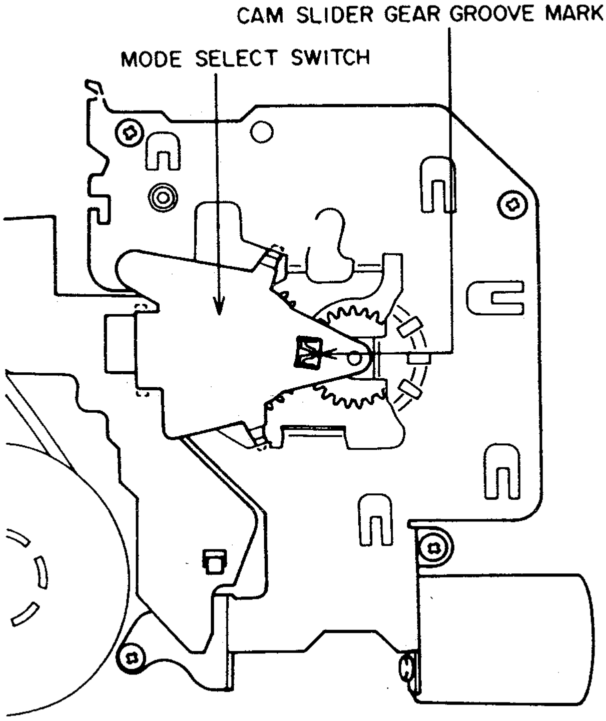


Fig. 3-4

To set the loading mechanism to the "unloaded" position, proceed with one of the following 1) or 2) procedures.

1) Insert a video cassette tape which you no longer need. Once the tape has been loaded or has entered the "play" mode press the POWER button to turn the power off. Disconnect the AC power plug from the AC socket after the cassette tape has been unloaded.
2) Remove the UPPER PLATE, FRONT GUIDE and CASSETTE LOAD BLK. (Refer to 3-1-1. Removal of the CASSETTE LOAD BLK.)

   Plug in the AC power cord. The LOADING ARM BLK will move backward (the cassette load BLK will be in the down position) and forward (the cassette load BLK will be in the eject position) continuously.

   Cover and hold the SENSOR (T) with your right index finger and attach a piece of black adhesive tape on the SENSOR (S) with your left hand at the same time when the LOADING ARM BLK is in the back position. The unit will enter the "play" mode without the cassette tape. While covering both sensors, press the "POWER" button. The unit will now enter the "tape unloaded" position. Release your fingers from the sensors, and disconnect the AC power plug from the AC power socket.

3-2-1. Removal of the MODE SELECT SWITCH

1) Remove the Ⓐ screw and remove the MECHA. EARTH PLATE.
2) Release the two Ⓐ stoppers as shown in Fig. 3-5.

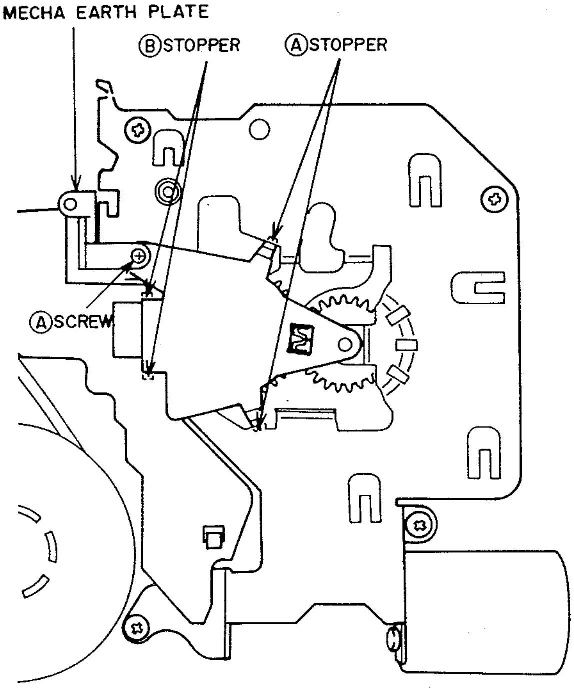


Fig. 3-5

3) Release the two Ⓑ stoppers carefully while pulling up the MODE SELECT SWITCH. Then remove the MODE SELECT SWITCH. (Do not damage the pins of the MODE SELECT SWITCH or the connector P1 on the SENSOR PCB).

3-2-2. Removal of the SENSOR PC Board

1) Disconnect the P603 connector on the SERVO/SYSCON PCB.
2) Remove the capstan belt.
3) Release the Ⓐ, Ⓑ and Ⓒ stoppers as shown in Fig. 3-6. Then remove the SENSOR PCB.

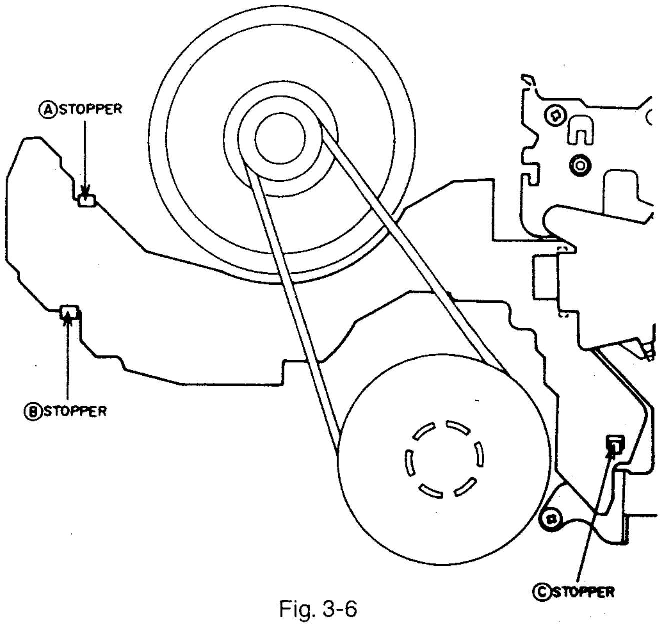


Fig. 3-6

3-3. REMOVAL OF THE LOADING DRIVE BLK

Set the loading mechanism at the "unloaded" position as well as 3-2 (REMOVAL OF THE SENSOR PC BOARD). However this time, to avoid damaging the tape and mechanical parts, refer to 3-2, *(2) only.

1) Remove the MODE SELECT SWITCH in the same manner as 3-2-1 (Removal of the MODE SELECT SWITCH).
2) Unhook the five wires from each tab. Two wires from the SENSOR(S), two wires from the LOADING MOTOR and one wire from the REC SAFETY SWITCH.
3) Remove the Ⓐ, Ⓑ, Ⓒ and Ⓓ screws, then remove the LOADING DRIVE BLK as shown in Fig. 3-7.

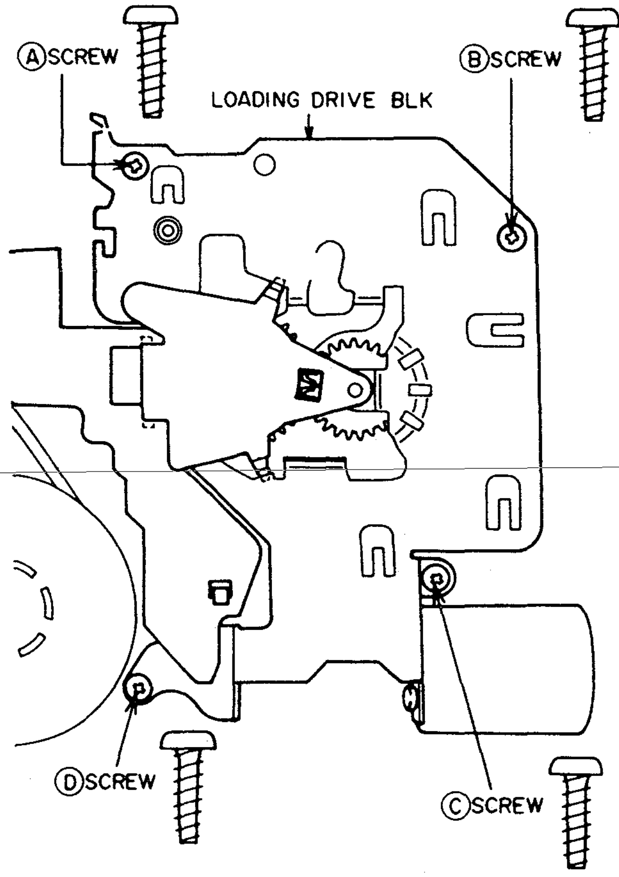

ⒶSCREW
ⒷSCREW
LOADING DRIVE BLK
ⒹSCREW
ⒸSCREW

Fig. 3-7

3-4. REPLACEMENT OF THE PINCH HOLDER PART

1) Release the stopper of the PINCH ARM and remove the PINCH ARM BLK as shown in Fig 3-8.

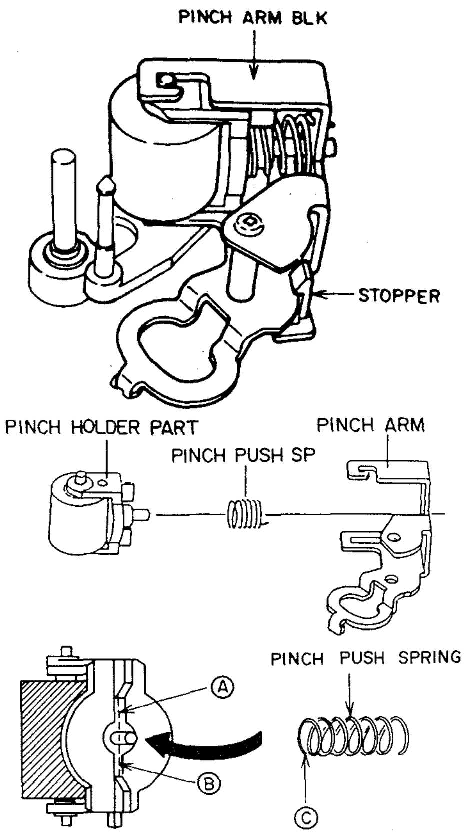

PINCH ARM BLK
STOPPER
PINCH HOLDER PART
PINCH ARM
PINCH PUSH SP
PINCH PUSH SPRING
Ⓐ
Ⓑ
Ⓒ

Fig. 3-8

2) Turn the PINCH HOLDER PART 30 degrees clockwise while pushing it backward and remove the PINCH HOLDER PART from the PINCH ARM.
3) Reassemble the PINCH ROLLER ARM BLK in the reverse order of 1) to 2).
4) At this point, the end of the PINCH PUSH SPRING (Ⓒ part) must be aligned with the Ⓐ or Ⓑ part of the PINCH HOLDER PART as shown.

3-5. REPLACEMENT OF THE IDLER PART AND REVIEW BRAKE PART

1) Remove the CASSETTE LOAD BLK & ARM LOADING BLK. (Refer to 3-1, REMOVAL OF THE EJECTOR BLK.)
2) Release the stopper of the IDLER PART as shown in Fig. 3-9, then remove it.

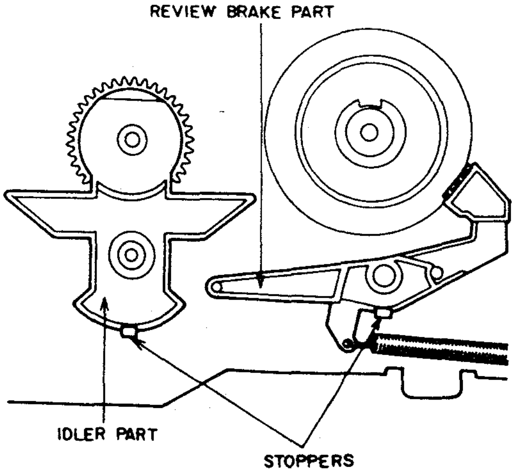

REVIEW BRAKE PART
IDLER PART
STOPPERS

Fig. 3-9

3) Take off the review brake part spring, then release the stopper of the REVIEW BRAKE PART and remove it.
4) Reassemble these parts in the reverse order of 1) to 3).

3-6. REASSEMBLY OF THE LOADING MECH ANISM BLK

3-6-1. Position of the TOGGLE GEARs (T) and (S)

1) Set the TOGGLE GEAR (T) and TOGGLE GEAR (S) to the unloaded position with your fingers. Align the Ⓐ mark on the TOGGLE GEAR (S) with the Ⓐ hole of the TOGGLE GEAR (T) as shown in Fig. 3-10.

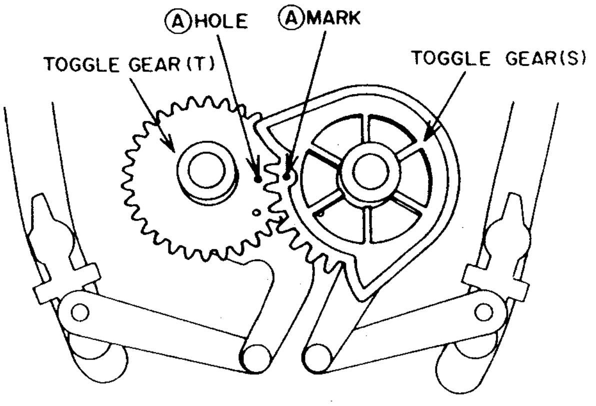

ⒶHOLE
ⒶMARK
TOGGLE GEAR (T)
TOGGLE GEAR(S)

Fig. 3-10

3-6-2. Installation of the CAM SLIDER GEAR & FRONT LOADING GEAR

1) Attach the WORM WHEEL GEAR as shown in Fig. 3-11.

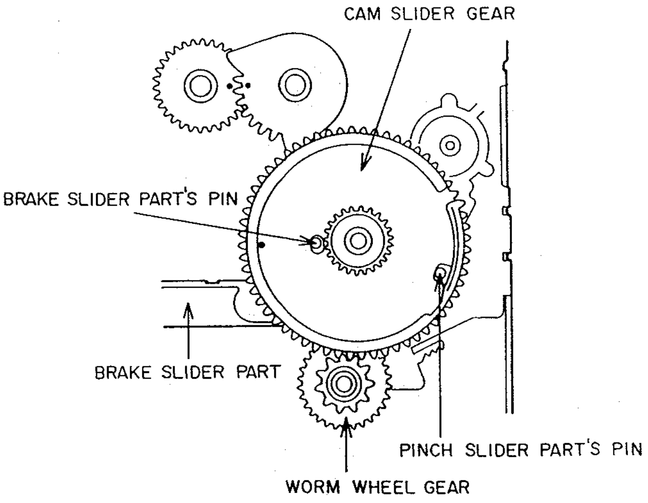

CAM SLIDER GEAR
BRAKE SLIDER PART'S PIN
BRAKE SLIDER PART
PINCH SLIDER PART'S PIN
WORM WHEEL GEAR

Fig. 3-11

2) Set the CAM SLIDER GEAR. At this time, adjust the position of the BRAKE SLIDER PART and PINCH SLIDER PART so that both pins appear through the holes on the CAM SLIDER GEAR as shown in Fig. 3-11.

3) Attach the FRONT LOADING GEAR as shown in Fig. 3-12. At this time, align the Ⓑ mark on the FRONT LOADING GEAR with the Ⓑ hole of the FRONT LOADING SLIDER as shown in Fig. 3-13.

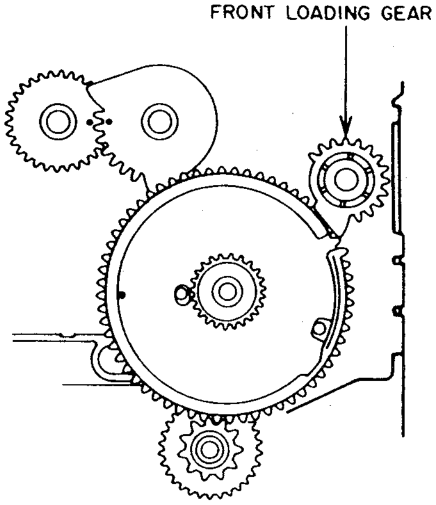

FRONT LOADING GEAR

Fig. 3-12

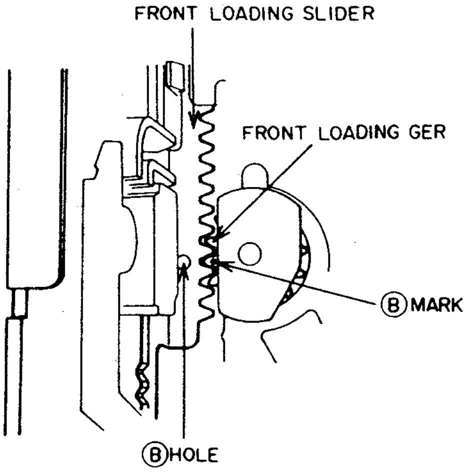

FRONT LOADING SLIDER
FRONT LOADING GER
ⒷMARK
ⒷHOLE

Fig. 3-13

3-6-3. Confirmation of the position of the EJECT GEAR

1) Confirm that the EJECT GEAR is in the correct position as shown in Fig. 3-14.

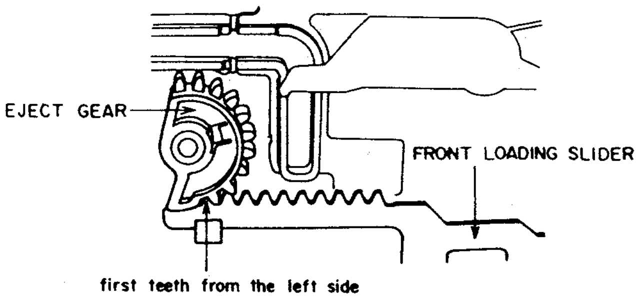

EJECT GEAR
FRONT LOADING SLIDER
first teeth from the left side

Fig. 3-14

2) Install the LOADING DRIVE BLK as shown in Fig. 3-15.

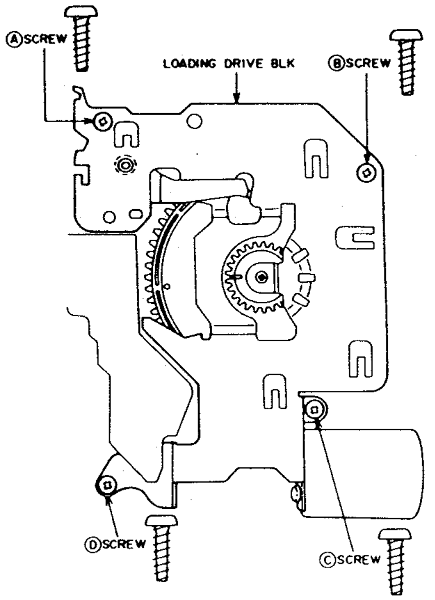

Ⓐ SCREW
LOADING DRIVE BLK
Ⓑ SCREW
Ⓓ SCREW
Ⓒ SCREW

Fig. 3-15

3-6-4. Installation of the MODE SELECT SWITCH

1) Set the MODE SELECT SWITCH's gear so that the © mark is in the center of the © hole as shown in Fig. 3-16.

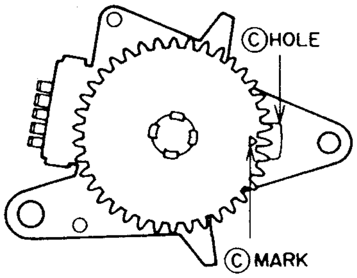


Fig. 3-16

2) Attach the MODE SELECT SWITCH to the LOADING DRIVE BLK. At this time, align the hollow of the gear's tooth (reverse side of the © mark) with the © groove of the CAM SLIDER GEAR as shown in Fig. 3-17.

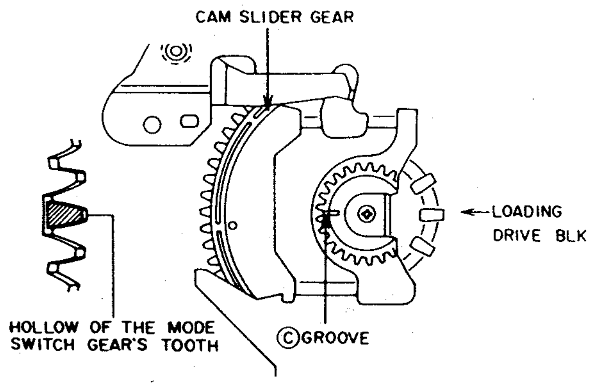

CAM SLIDER GEAR
LOADING DRIVE BLK
HOLLOW OF THE MODE SWITCH GEAR'S TOOTH
© GROOVE

Fig. 3-17

3-6-5. Installation of the LOADING ARM BLK

1) While covering the SENSOR (S) with your fingers, connect the AC power plug to the AC socket. The FRONT LOADING SLIDER will reach the "EJECT" position. Then disconnect the AC power plug from the AC socket before you release your fingers from the SENSOR (S).
2) Install the LOADING ARM BLK in the reverse order of 3-1-2 (Removal of the LOADING ARM BLK). Set the position between both the EJECT GEAR and the JOINT GEAR as shown in Fig. 3-18.

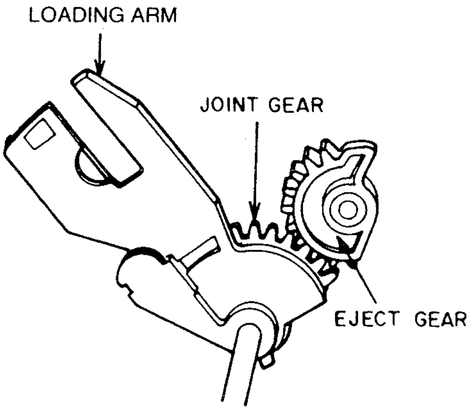

LOADING ARM
JOINT GEAR
EJECT GEAR

Fig. 3-18

3-6-6. Installation of the CASSETTE LOAD BLK, FRONT GUIDE and UPPER PLATE

1) Attach the CASSETTE LOAD BLK, FRONT GUIDE and UPPER PLATE in the reverse order of 3-1-1 (Removal of the CASSETTE LOAD BLK).
2) Insert a video cassette tape and confirm that the loading mechanism will operate properly.

3-7. REPLACEMENT OF THE UPPER DRUM

3-7-1. Removal of the UPPER DRUM

1) Remove the EARTH BRUSH fixing screw and remove the EARTH BRUSH.
2) Unsolder the twelve relay leads and remove the two upper drum fixing screws as shown in Fig. 3-19.
3) Gently lift and remove the UPPER DRUM.

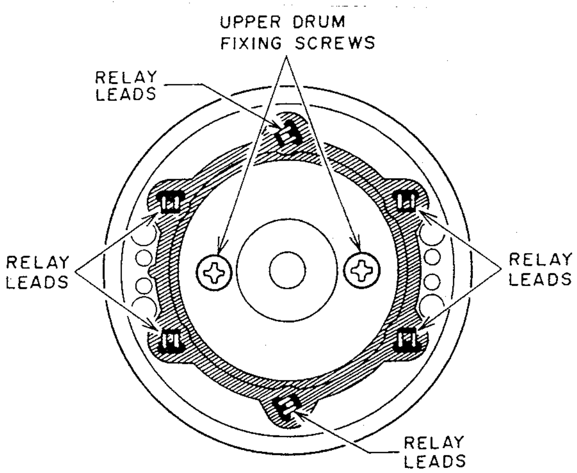

UPPER DRUM FIXING SCREWS
RELAY LEADS
RELAY LEADS
RELAY LEADS
RELAY LEADS

Fig. 3-19

3-7-2. Installation of the UPPER DRUM

1) Attach the UPPER DRUM to the LOWER DRUM ROTOR so that the upper drum convex Ⓐ and lower drum rotor's white mark are in the same direction as shown in Fig. 3-20.

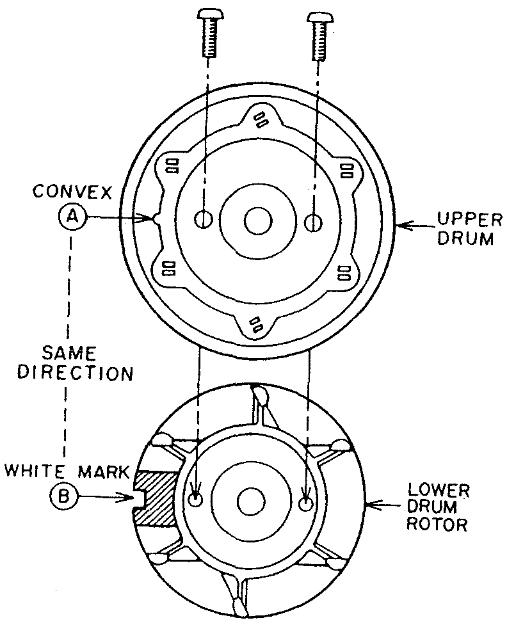


Fig. 3-20

NOTE: Because height precision is required for proper performance, and because head tips are fragile, the following points should be noted when replacing the UPPER DRUM BLOCK.

(a) Do not loosen the set screw on the collar preload.
(b) Before fixing, use alcohol to clean both surfaces where the upper drum and the rotary transformer meet.
(c) If the UPPER DRUM can not be inserted on to the shaft easily during installation, clean the hole in the UPPER DRUM with alcohol and put a little oil on the shaft.
(d) Make sure that the upper drum fixing screw holes on the rotary transformer part and the upper drum fixing screw penetration holes match exactly before inserting the fixing screws.
(e) Tighten the two upper drum fixing screws alternately and gradually.

3-7-3. After replacement

After replacement, the following adjustments are necessary for the proper performance.

1) Reference RF envelope detect voltage preset (Refer to "TEST MODE", step 1)
2) Control head Phase adjustment (IV. MECHANICAL ADJUSTMENT 4-3-3.)
3) PB switching point adjustment. (V. ELECTRICAL ADJUSTMENT 5-1. Step 1)
4) Video head REC current adjustment. (V. ELECTRICAL ADJUSTMENT 5-1. Step 6)
5) Hi-Fi head REC current adjustment. (V. ELECTRICAL ADJUSTMENT 5-2. Step 5)

3-8. DRUM MOTOR PC BOARD REPLACEMENT

1) Remove the two Ⓐ screws on the ROTARY PLATE and remove the ROTARY PLATE.
Then disconnect the connector on the DRUM MOTOR PCB as shown.

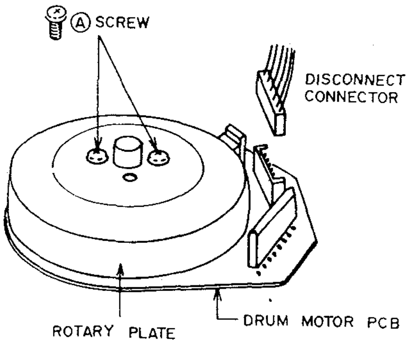


Fig. 3-21

2) Remove the three Ⓑ screws which fix the DRUM MOTOR PCB and replace the DRUM MOTOR PCB.

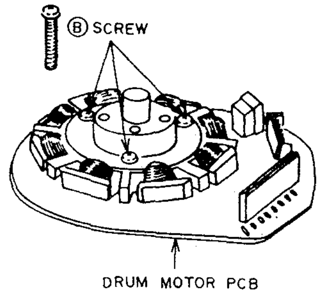


Fig. 3-22

3) Attatch the ROTARY PLATE to the collar preload so that the rotary plate Ⓒ hole and collar preload Ⓓ hole are in the same direction.

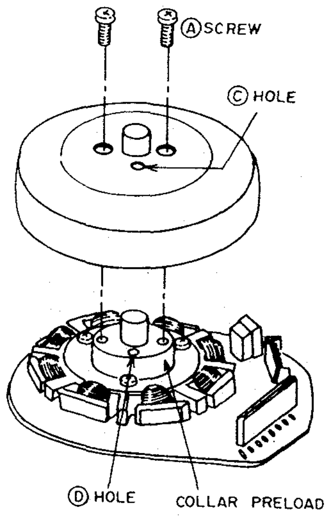


Fig. 3-23

3-9. REMOVAL OF THE MECHANISM BLOCK

3-9-1. Removal of the PRE AMP PC Board

1) Pull up and remove the PRE AMP SHIELD PLATE which is installed in parallel with the PRE AMP PCB. (VS-A650 only)
2) Remove the Ⓐ screw which fix the EARTH BRUSH and remove the EARTH BRUSH.
3) Remove the Ⓑ and Ⓓ screw which fix the PRE AMP PCB then pull up the PRE AMP PCB as shown in Fig. 3-24.

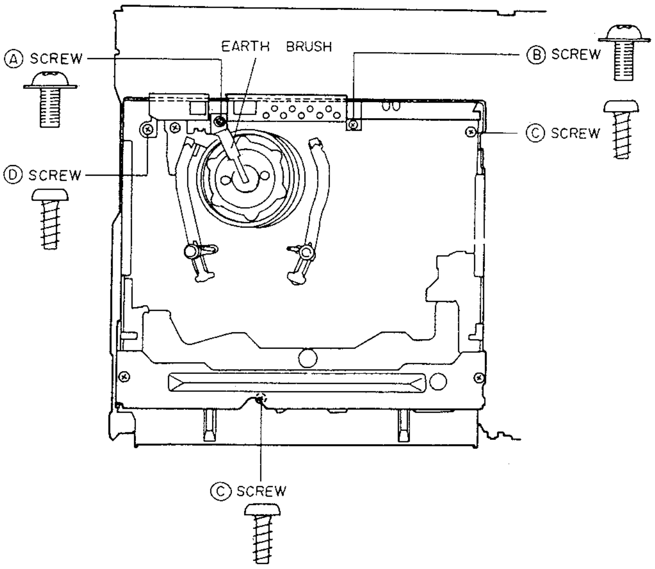


Fig. 3-24

3-9-2. Removal of the MECHANISM BLK (MECHA. FRAME)

1) Disconnect the P601, P602 and P603 connectors on the SERVO/SYSCON PCB.
2) Disconnect the P1 connector on the A/C HEAD PCB and connector on the FULL TRACK ERASE HEAD.
3) Remove the two Ⓒ screws from the MECHA. FRAME as shown in Fig. 3-24.
4) Hold the rear side of the MECHA. FRAME then remove by pulling up backward.
5) Reassemble in the reverse order for installation.

IV. MECHANICAL ADJUSTMENT

4-1. BACK TENSION ADJUSTMENT

1) Play back a recorded tape which is no longer needed.
2) Confirm that the Ⓐ groove on the TENSION ARM aligns with right end of the Ⓐ mark on the MECHA. CHASSIS as shown in Fig. 4-1.
3) If the result is not satisfactory, eject the tape and adjust the TENSION ADJUST repeatedly until the result is satisfactory.

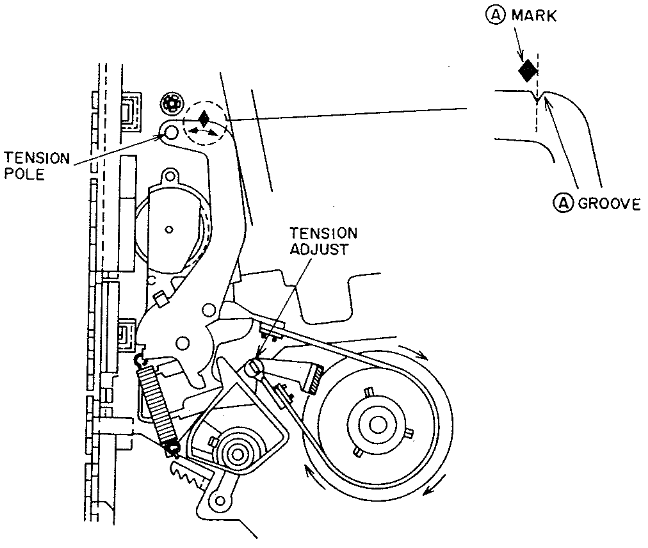


Fig. 4-1

4-2. TAPE TRANSPORT ADJUSTMENTS

NOTE: The following adjustments are required only when an irregularity is found since these adjustment are performed precisely at the factory.

4-2-1. Tape curl adjustment at the TAKE-UP TAPE GUIDE

1) Play back a recorded tape which is no longer needed.
2) Turn the Ⓐ screw on the A/C HEAD BLK until the edge of the tape barely touches the lower part of TAKE UP TAPE GUIDE without any curl or wrinkle.
3) Once the Ⓐ screw is adjusted, A/C HEAD height and azimuth adjustment is required. (Refer to 4-3. A/C HEAD POSITION ADJUSTMENT.)

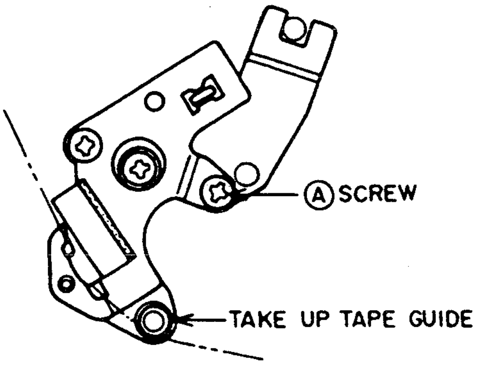
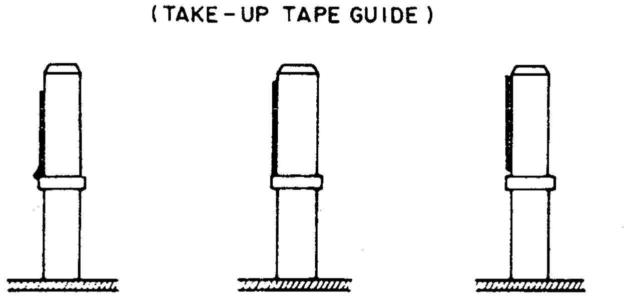


Fig. 4-2

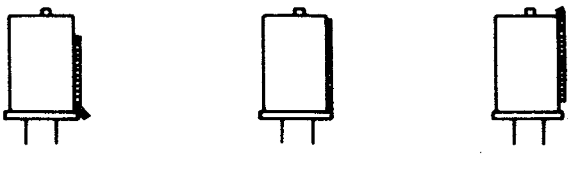


(a) INCORRECT (b) CORRECT (c) INCORRECT

Fig. 4-3

4-2-2. Confirmation of tape curl at the SUPPLY TAPE GUIDE

Confirm that the edge of the tape barely touches the lower part of the SUPPLY TAPE GUIDE without any curl or wrinkle as shown in Fig. 4-4.



INCORRECT CORRECT INCORRECT

Fig. 4-4

4-2-3. REVIEW ARM height adjustment

1) Play back the beginning part of an E-240 (T-160) tape and set the unit in the REVIEW mode by pressing the REW button.
(Remove the tape protection cover to make the adjustment easy.)

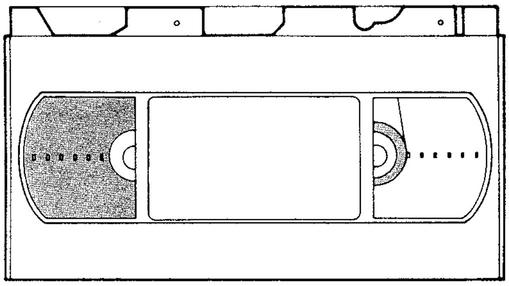


Fig. 4-5

2) Turn the REVIEW ARM height Ⓐ nut so that the edge of the tape barely touches the lower part of the TAKE-UP TAPE GUIDE without any curl or wrinkle between the TAKE-UP TAPE GUIDE and the CAPSTAN SHAFT as shown in Fig. 4-6 to Fig. 4-8.

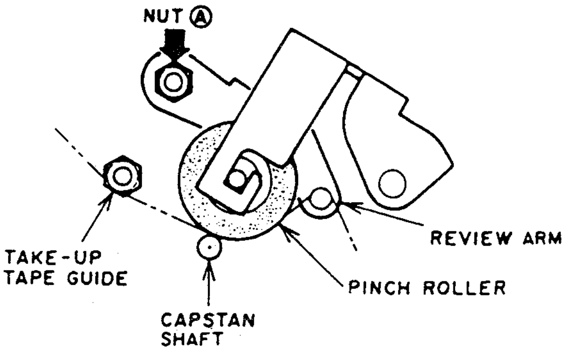
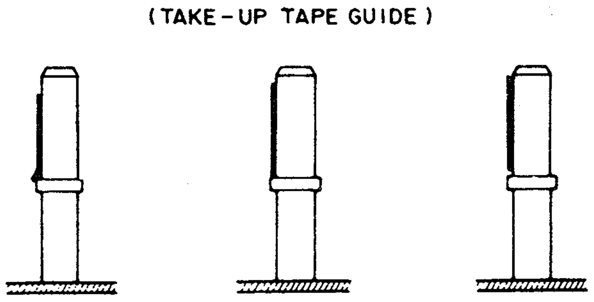
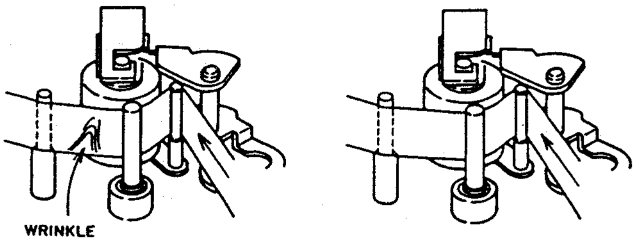


Fig. 4-6



(a) INCORRECT (b) CORRECT (c) INCORRECT

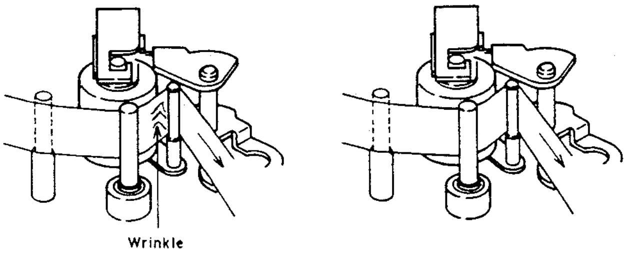
Fig. 4-7



INCORRECT CORRECT

Fig. 4-8

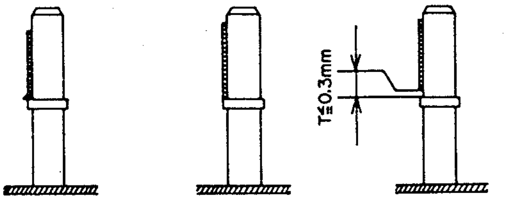
3) Play back the beginning part of an E-240 (T-160) tape and this time set the unit in the CUE mode by pressing the F.FWD button.
4) Confirm there is no curl or wrinkle at REVIEW ARM's guide.
If curl or wrinkle of the tape has occured, slightly turn the Ⓐ nut (Shown in Fig. 4-6) until it disappears.



INCORRECT CORRECT

Fig. 4-9

5) Set the unit in REVIEW mode again. Then confirm that there is no curl or wrinkle at the TAKE UP TAPE GUIDE.
(A small gap may appear after this adjustment, but this is allowable)



(a) INCORRECT (b) CORRECT (c) CORRECT

Fig. 4-10

NOTE:
1. If results are not satisfactory, repeat steps 2) to 5).
2. Always play an undamaged tape to obtain satisfactory adjustment.
3) Because an E-240 (T-160) tape can easily be damaged due of its thinness, a pre-adjustment with an E-180 (T-120) tape is recommended.

4-2-4. LOADING LEADER height adjustments

1) Slightly loosen the set screw at the lower part of the LOADING LEADERs (L), (R) so that the LOADING LEADER can be adjusted with reasonable tightness. (Refer Fig. 4-11.)
2) Play back the reference tape TF-530RFS (AT-751775).
3) Connect an oscilloscope's CH-1 to the TR154 emitter (ENVE) on the MAIN PCB and CH-2 to the TP2 (V SWP) on the PRE AMP PCB for triggering.
4) Turn the LOADING LEADER heads with a flat head (**—**) screw driver to obtain flat RF envelope as ideal envelope as shown in Fig. 4-12.
5) After adjustment is completed, tighten the loading leader set screws.

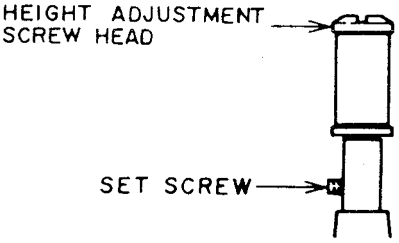

HEIGHT ADJUSTMENT SCREW HEAD
SET SCREW

Fig. 4-11

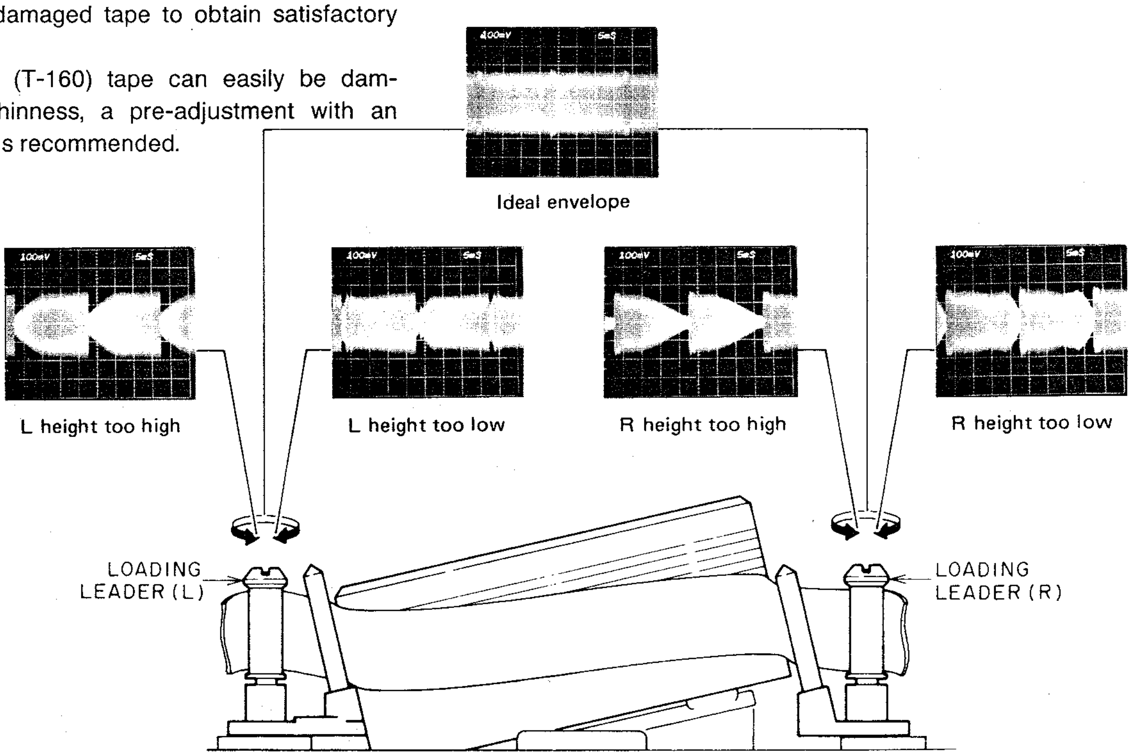

Ideal envelope
L height too high
L height too low
R height too high
R height too low
LOADING LEADER (L)
LOADING LEADER (R)

Fig. 4-12

4-3. A/C HEAD POSITION ADJUSTMENT

4-3-1. Azimuth adjustment

1) Connect an AC voltmeter or an oscilloscope to the AUDIO OUT terminal on the rear panel.
2) Play back the reference tape TF-530RFS (AT-751775).
3) Adjust the Ⓑ screw to obtain the maximum audio output.

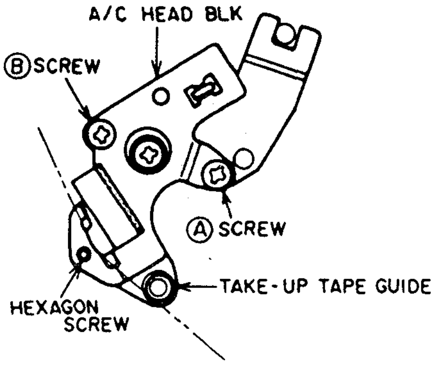
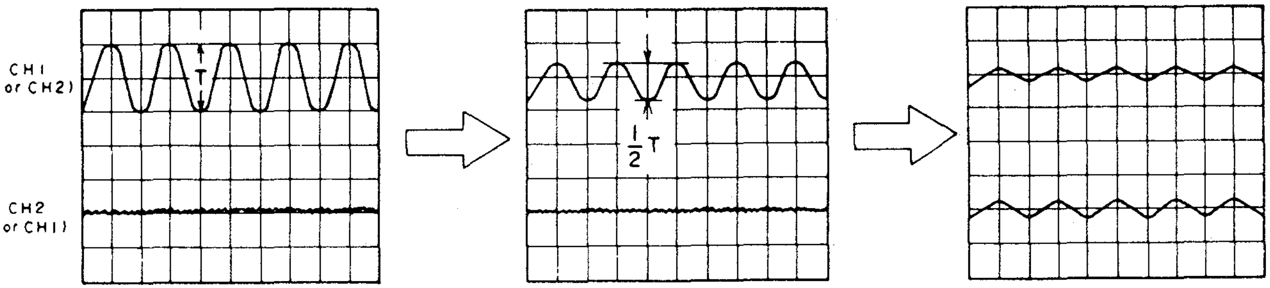


Fig. 4-13

4-3-2. Height adjustment

1) Play back the test tape TF-526HH (AT-751788).
2) Connect an oscilloscope's CH-1 to the AUDIO OUT on the rear panel and CH-2 to the TP600 (CTL OUT) on the SERVO/SYSCON PCB.
3) Turn the hexagon screw to obtain 1/2 of the output level of either CH-1 or CH-2 whichever has an output signal as shown in Fig. 4-14.
   Then set both of the oscilloscope's channels to 100 mV/div and finely adjust the hexagon screw until both signals of CH-1 and CH-2 are nearly the same level.
4) Slightly turn the Ⓐ screw until the tape edge barely touches the lower part of the TAKE UP TAPE GUIDE without any curl or wrinkle as shown in Fig. 4-3.
5) Adjust the head azimuth again. (Turning the hexagon screw or Ⓐ screw will cause head azimuth mis-alignment. Refer to 4-3-1. Azimuth adjustment.)
6) Confirm that both signals of CH-1 and CH-2 are nearly the same level (Confirm that neither of the CH-1 or CH-2 output levels exceed 100 mVp-p). If the result is not satisfactory, repeat steps 3) to 5).



(a) CH1 = T

(b) CH1 = $\frac{1}{2}$T

(c) CH1 = CH2

Fig. 4-14

4-3-3. Phase adjustment

1) Connect an oscilloscope's CH-1 to the TR154 emitter (ENVE) on the MAIN PCB and CH-2 to the TP2 (V SWP) on the PRE AMP PCB for triggering.
2) Play back the reference tape TF-530RFS (AT-751775).
3) Press one of the TRACKING buttons on the remote control until the "×" mark can be seen in the center position of the tracking range on the TV screen as shown in Fig. 4-15.
4) Loosen the Ⓒ screw slightly so that the A/C HEAD PLATE can be moved with reasonable tightness.
5) Insert a sharp flat head (—) screwdriver into the A/C HEAD BASE and Ⓐ hole as shown in Fig. 4-17.
6) Move the A/C HEAD BASE by moving a screwdriver in the direction of the arrow as shown in Fig. 4-17 to obtain the maximum RF output, then tighten the Ⓒ screw.

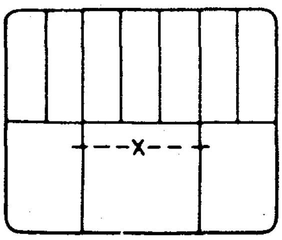


Fig. 4-15

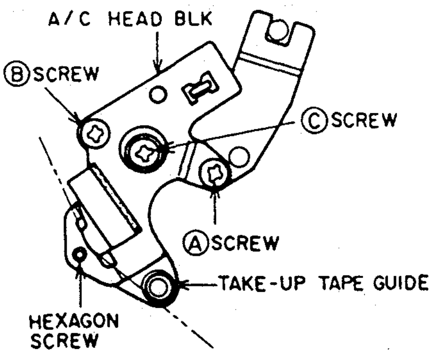


Fig. 4-16

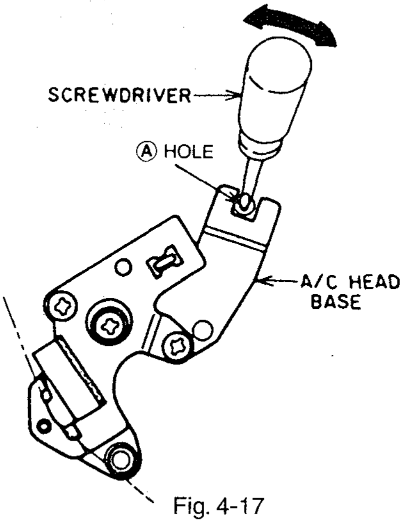


Fig. 4-17

V. ELECTRICAL ADJUSTMENT

5-1. VIDEO & SERVO CIRCUIT ADJUSTMENT

Precautionary items prior to adjustments

1. The color bar generator output should be 1.0 Vp-p.
2. The video output terminal should be terminated with 75 ohms (connect dummy load or 75 ohms input TV.)

Required following test tapes.

Test tape	Parts No.
TF-530RFS TF-532CBS	AT-751775 AT-751360

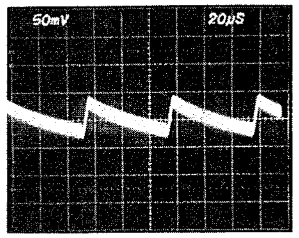
STEP	ADJUSTMENT ITEM
	1. MODE and INPUT SIGNAL/TEST TAPE 2. TEST POINT and ADJ part 3. REMARKS (•) & RESULT (*)

ADJ. part ⟶

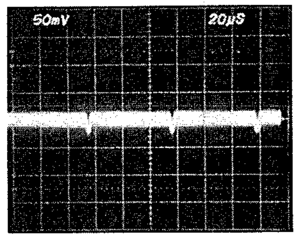
Test point - - ->

2 AFC ERROR

1. "E-E"(stop mode), PAL colour bar signal
2. TP500(AFC ERROR) & VR500(AFC)
3. • Connect an oscilloscope to TP500.
   *Adjust the VR500 so that the waveform becomes as flat as possible.



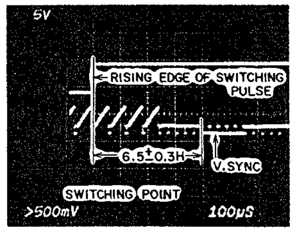
INCORRECT



CPRRECT

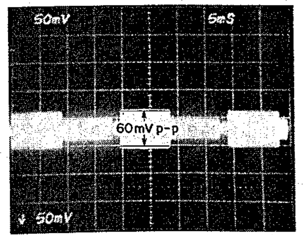
1 PB SWITCHING POINT

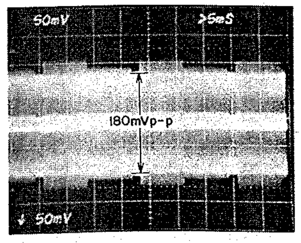
1. "PB", test tape TF-530RFS
2. TP2(V.SWP), VIDEO OUT & VR600(SW.POINT)
3. • Connect an oscilloscope's CH-1 to VIDEO OUT and CH-2 to the TP2 for triggering
   *Adjust VR600 so that the switching point is positioned 6.5 ± 0.3 H from the V-SYNC left edge as shown.

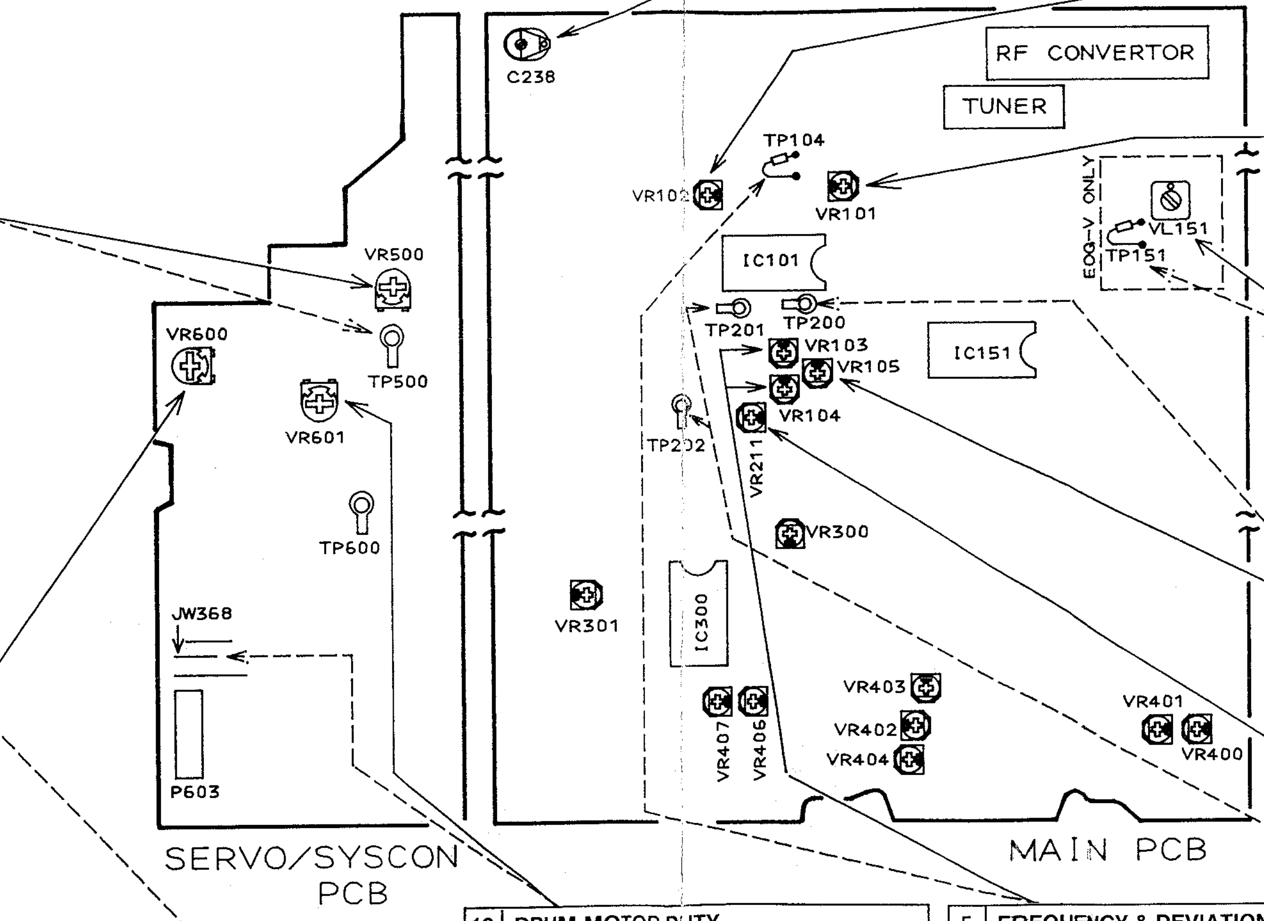


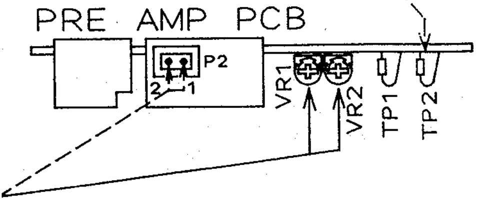
6 VIDEO REC CURRENT

1. "REC"(LP mode), PAL colour bar signal
2. P2(TP REC.CURR) & VR1(REC-CHROMA), VR2(REC-Y)
3. • Connect an oscilloscope's CH-1 to P2 ① pin and CH-2 to ② pin. And set the oscilloscope' display mode to "ADD" mode and CH-2 polarity to "INVERTED".
   • Turn the VR2(REC-Y) fully counterclockwise.
   *Adjust VR1 so that the chroma REC current becomes 60 mVp-p at the cyan part.
   *Adjust VR2 so that Y REC current becomes 180 mVp-p at the V-SYNC area.



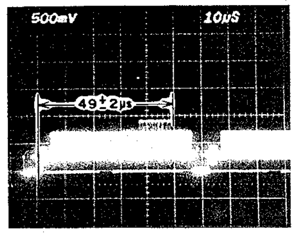






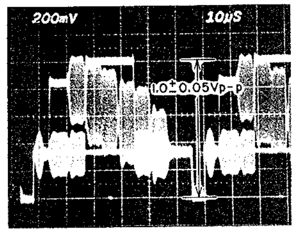
9 CHARACTER POSITION

1. "E-E"(STOP mode), No signal input
2. VIDEO OUT, TV SCREEN & C238
3. • Press "DISPLAY" button on the remote control to display elapsed tape counter.
   • Connect an oscilloscope to the VIDEO OUT.
   *Adjust the C238 so that right end of the IMS signal becomes 49 ± 2 μs from the H-sync as shown.



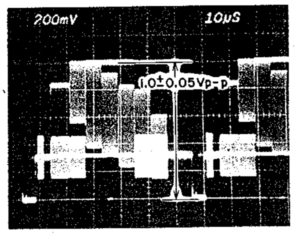
8 VIDEO PB LEVEL

1. "REC" → "PB", PAL color bar signal
2. VIDEO OUT & VR102(PB LEVEL)
3. • Connect an oscilloscope to VIDEO OUT
   • Make some recording on the tape then play it back
   *Adjust VR102 so that PB level becomes 1.0 ± 0.05 Vp-p



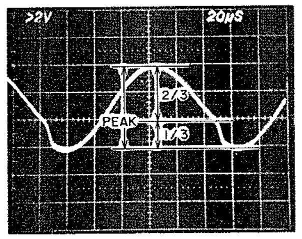
3 VIDEO E-E LEVEL

1. "E-E" (stop mode), PAL color bar signal
2. VIDEO OUT & VR101(E-E LEVEL)
3. • Connect an oscilloscope to VIDEO OUT.
   *1.0 ± 0.05 Vp-p



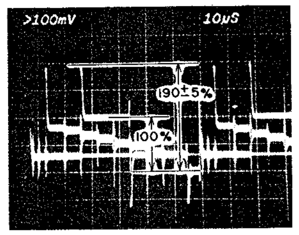
11 P/S AUTO SENSITIVITY(EOG-V ONLY)

1. "E-E"(STOP mode), SECAM colour bar signal
2. TP151(P/S SENS) & VL151(P/S SENS)
3. • Connect an oscilloscope to the TP151.
   *Adjust VL151 so that distorted point of the waveform becomes 1/3 from the bottom as shown.



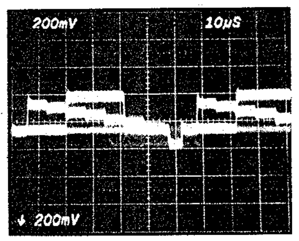
4 WHITE CLIP

1. "E-E" (stop mode), PAL color bar signal
2. TP200(W.CLIP) & VR105(W.CLIP)
3. • Connect an oscilloscope to TP101
   *Adjust VR105 so that white clip level becomes 190 ± 5 % as shown.

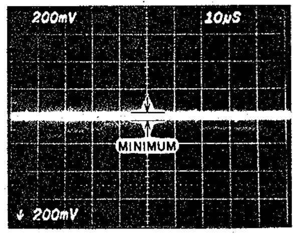


7 CCD

1. "PB", test tape TF-532CBS
2. TP201(CCD),TP202(CCD) & VR211(CCD LEVEL)
3. • Connect an oscilloscope's CH-1 to TP201 and CH-2 to TP202. And set the oscilloscope's display mode to "ADD" mode and CH-2 polarity to "INVERTED".
   *Adjust VR211 so that waveform level on the oscilloscope becomes minimum.



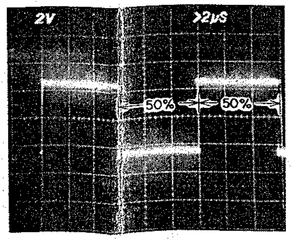
INCORRECT



CORRECT

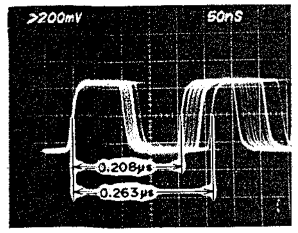
10 DRUM MOTOR DUTY

1. "REC", PAL colour bar signal
2. JW368 (DPD), VR601 (DM DUTY)
3. • Connect an oscilloscope to JW368 jumper wire.
   *Adjust the VR601 so that the duty of the DPD pulse is 50 % to 50 % as shown.



5 FREQUENCY & DEVIATION

1. "REC", PAL color bar signal
2. TP104(REC Y) & VR104(FREQ), VR103(DEV)
3. • Connect an oscilloscope to TP104
   *VR104(FREQ): 0.263 μs (3.8 MHz)
   *VR103(DEV): 0.208 μs (4.8 MHz)



5-2. AUDIO CIRCUIT ADJUSTMENT

Precautionary items prior to adjustments

1. Never adjust the W.G MULTI PCB because it is adjusted precisely at the factory and the adjustment of the W.G MULTI PCB is required special testing equipments.

Required following test tapes.

Test tape	Parts No.
TF-527RFS	AT-711880
TF-532CBS	AT-751360

STEP	ADJUSTMENT ITEM
	1. MODE and INPUT SIGNAL/TEST TAPE 2. TEST POINT and ADJ part 3. REMARKS (•) & RESULT (✻)

ADJ. part

Test point

1 REC BIAS

1. "REC"(LP mode), (no signal input)
2. P300 ①, ② pin & VR300(REC BIAS)
3. • Connect an AC voltmeter to P300 ① pin and ② pin(ground).(Never connect the AC voltmeter's ground to the VCR's ground)
   ✻Adjust VR300 so that the reading on the AC voltmeter becomes 2.6 ± 0.1 mV.

2 LINEAR PB LEVEL

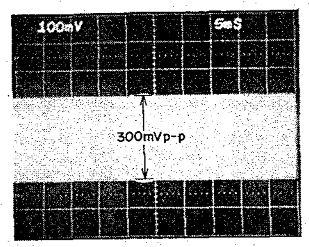
1. "PB", test tape TF-527BL
2. AUDIO OUT & VR301(LINEAR PB LEVEL)
3. • Connect an AC voltmeter to AUDIO OUT(L-CH) or (R-CH).
   ✻Adjust VR301 so that output level becomes -4.0 ± 0.5 dBs.

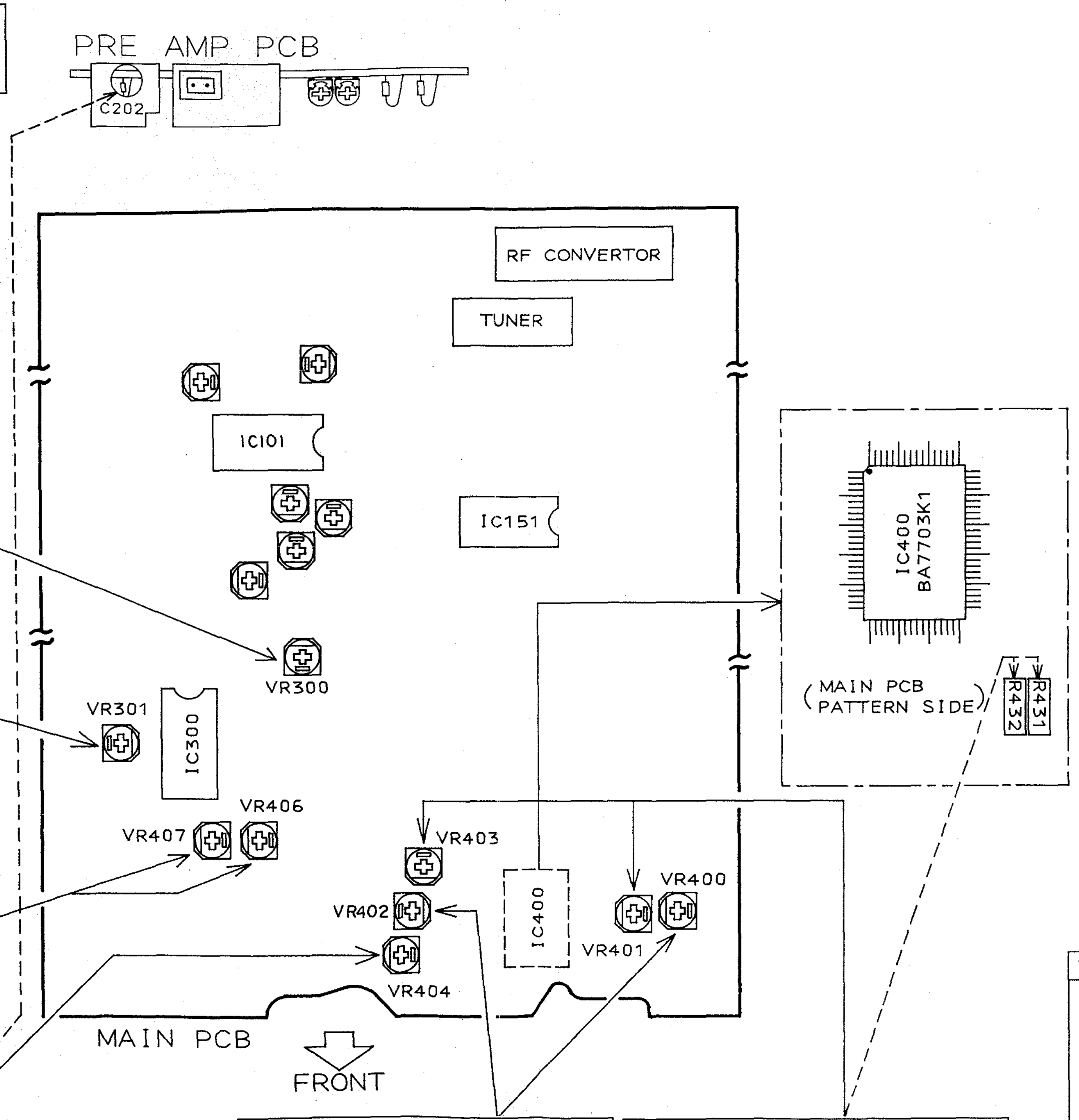
6 METER SENSITIVITY

1. "E-E", 1 kHz -6 dBs
2. AUDIO OUT & VR406(L-CH), VR407(R-CH)
3. • Connect an AC voltmeter to the AUDIO OUT.
   • Set the volume on the sub panel to the center click position. And confirm that the output level is -6 dBs. If not, adjust the volume slightly until the level becomes -6 dBs.
   ✻Adjust the VR406 and VR407 so that the bar meter in the FL DISPLAY rearchs 0 VU. Then change the output level of the audio signal generator slightly and confirm that the indication of the L-CH and R-CH bar meter changes simultaneously. If the result is not satisfactly, readjust the VR406 or VR407 again.

5 Hi-Fi REC CURRENT

1. "REC", no signal input
2. C202(A REC CURR) & VR404(REC CURRENT)
3. • Connect an oscilloscope to the lead of the C202.
   ✻Adjust VR404 so that the waveform level on the oscilloscope becomes 300 ± 10 mV p-p.





4 DEVIATION

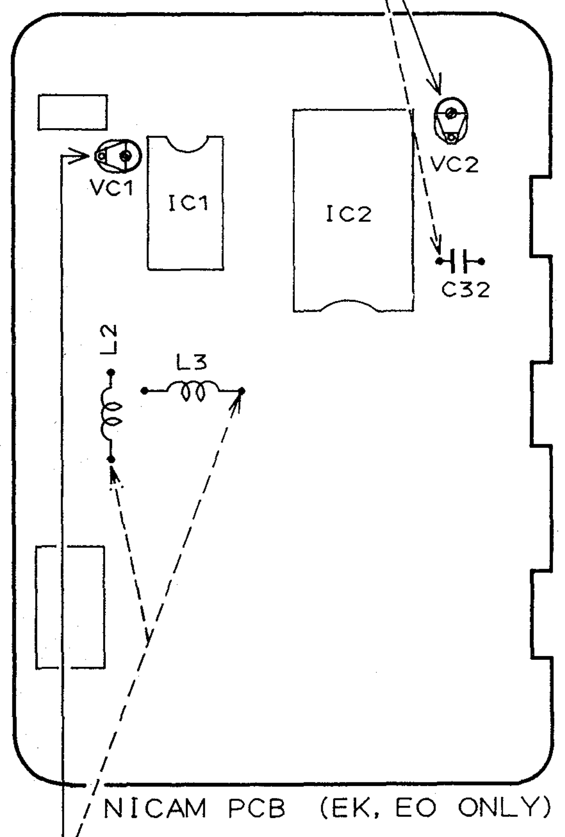
1. "PB", test tape TF-532CBS
2. AUDIO OUT(L),(R) & VR400(L-DEV), VR402(R-DEV)
3. • Connect an AC voltmeter to the AUDIO OUT.
   ✻Adjust VR400 and VR402 so that the output level of both L and R channel becomes -6 ± 0.1 dBs.
   • Input 1 kHz, -6 dBs signal to AUDIO IN terminal and set a blank tape to the VCR.
   ✻Make some recording then play it back and confirm that the playback level is -6 ± 1.0 dBs.

3 CARRIER FREQUENCY

1. "E-E(stop mode), no signal input
2. R431(R),R432(L) & VR403(R-fo)),VR401(L-fo)
3. • Connect a frequency counter to the lead of the R431 and ground.
   ✻Adjust VR403 so that the reading on the frequency counter becomes 1.8 MHz ± 10 kHZ.
   • Connect the frequency counter to the lead of the R432 and ground.
   ✻Adjust VR401 so that the reading on the frequency counter becomes 1.4 MHz ± 10 kHZ.

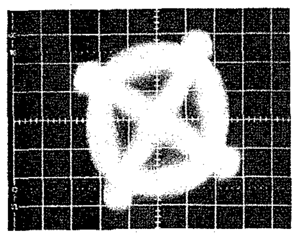
8 D/A OSC

1. "E-E" (stop mode), receive NICAM broadcast station
2. TP-OSC (C32 positive side) & VC2(D/A OSC)
3. • Connect an oscilloscope to TP-OSC and set input mode to "DC".
   ✻Adjust VC2 so that average DC voltage becomes 2.0 ± 0.1 V.

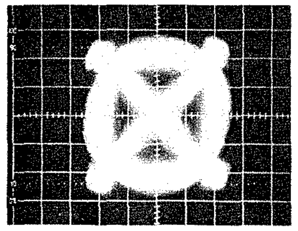


7 CARRIER P.L.L

1. "E-E" (stop mode), receive NICAM broadcast station
2. Lead of L3, L2 & VC1
3. • Connect an oscilloscope's CH-1 to the lead of L3 and CH-2 to the lead of L2. Then set the oscilloscope's display mode to "X-Y" mode and 20 mV/div.
   ✻Adjust VC1 so that the vertical line of the waveform becomes straight as shown.



INCORRECT



CORRECT

VI. PARTS LIST

ATTENTION

1. **When placing an order for parts, be sure to list Part No., Model No. and the description of eachpart. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.**
2. **Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.**
3. **Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.**

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

Ref.No.	Part No.	Description
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R/P PR4-8FU C
3	ZS-477876	PAN20×03STL CMT
4	ZS-536488	BID20×08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

This number corresponds with the individual parts index number in that figure.

The available PC Board Blocks are listed separately.

b) PC Board

6. MAIN PC BOARD

Ref.No.	Part No.	Description
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A] : AAL (U.S.A) [S] : SAA (Australia)
[B] : BEAB (England) [U] : U/T (Universal Area)
[C] : CSA (Canada)
[E] : CEE (Europe) [V] : VDE (W. Germany)
[J] : JPN (Japan) [Y] : Custom Version

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

WARNING

⚠ (*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

⚠ (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT.

1.RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref.No.	Part No.	Description
1	AV-B1014B015E	REMOCON BLK RC-V600A-EB [F600EOH/EO]
2	AV-B1015B010A	REMOCON BLK RC-V602A-EB [F600EK]
3	AV-B1015B010B	REMOCON BLK RC-V604A-GB [F600EOG]
4	AV-B1014B016B	REMOCON BLK RC-V605A-EB [F600EA]
5	AV-B1014B015G	REMOCON BLK RC-V650A-EB [A650EOH/EO]
6	AV-B1015B010C	REMOCON BLK RC-V652A-EB [A650EK]
7	AV-B1015B010D	REMOCON BLK RC-V654A-GB [A650EOG]
8	AV-B1014B016C	REMOCON BLK RC-V655A-EB [A650EA]
9	BB-V1102A020J	MECHA DECK BLK F600EA
10	BL-V1102A140A	ARM LOADING BLK 425EA
11	BL-V1102A160A	ARM PINCH ROLLER(2)BLK 425EA
12	BL-387458J2	CAPSTAN BRAKE PART
13	BL-V1123A050A	TENSION BLK F600EA
14	BM-400682J	MOTOR DFX-67B3VWB1 [CAPSTAN MOTOR]
15	BM-394844J	MOTOR E20 EL82 [DRUM MOTOR]
16	BM-387503J	MOTOR PART [LOADING MOTOR]
17	*BT-394941J	TRANS POW V1125 EA [A650EA/EK]
18	*BT-394943J	TRANS POW V1125 EO [A650EOH/EO/EOG]
19	*BT-394952J	TRANS V1123 EA [F600EA/EK]
20	*BT-394945J	TRANS V1123 EOH [F600EOH/EO/EOG]
21	BV-V1102A150A	CASSETTE LOAD BLK 425EA
22	BV-V1102A070A	LEADER S BLK 425EA
23	BV-V1102A080A	LEADER T BLK 425EA
24	BV-V1123A410C	LOWER DRUM BLK F600EA
25	BV-387635J1	RF CONVERTER MDLK6B063B EK [EK]
26	BV-387632J1	RF CONVERTER MDLK6D063B EO [EO/EOH-E/EOH-V/EOG]
27	BV-387610J	RF CONVERTER YAA21-0453 EA [EA]
28	BV-V1123A420C	UPPER DRUM BLK F600EA
29	EC-391843J	C DOUBLE FYDOH 223Z 5.5DC
30	EC-397180J	C S-FIX H T05 VCT51C 3.0-10
31	EC-397179J	C S-FIX H T05 VCT51E 4.5-20
32	EC-356284	C S-FIX H VCT51G 7.5- 50
33	ED-397391J	D LED BR3668S RED
34	ED-397340J	D LED GL-5HY41 YELLOW
35	ED-365622	D LED GL-5PR41 RED
36	ED-394723J	D LED GL3HY44 YELLOW
37	ED-389638J	D LED GL3HY47 YELLOW
38	ED-390011J	D LED GL451 INFRARED [D1]
39	ED-390012J	D LED GL4800 INFRARED [D2][D3]
40	ED-376111	D LED SE303AC INFRARED
41	ED-360409	D PHOTO PN323B
42	ED-392779J	D SCHOTTKY 1SS198 T26
43	ED-387946J	D SCHOTTKY RB100AT-62 T05
44	ED-389296J	D SILICON BR31-B-D-80 100/3.0A [EA/EK/EOH-E/EOH-V/EO]
45	ED-386031J	D SILICON CHIP MA110-TW
46	ED-379298	D SILICON DBA20B 100/2.0A
47	ED-357037	D SILICON DBA30B 100/ 3.0A [EOG-V]
48	ED-307572	D SILICON H 1SS131 [EOH-V/EOG-V]
49	ED-624903	D SILICON H 1S2473
50	ED-511907	D SILICON 1N4002 100/1.0A
51	ED-394936J	D VARACTOR 1SV111
52	ED-364032	D ZENER H HZS10B2J F05
53	ED-396065J	D ZENER H HZS12C-1
54	ED-397319J	D ZENER H HZS15-2
55	ED-396067J	D ZENER H HZS18-1
56	ED-397289J	D ZENER H HZS20-2
57	ED-397399J	D ZENER H HZS3C3
58	ED-396062J	D ZENER H HZS36-2
59	ED-396061J	D ZENER H HZS5B3
60	ED-394924J	D ZENER H HZS5C1
61	ED-397233J	D ZENER H HZS5C3
62	ED-387919J	D ZENER H HZS6A1L F05
63	ED-378530J	D ZENER H HZS6B2L F05
64	ED-396063J	D ZENER H HZS7B-1
65	ED-387763J	D ZENER H HZS7B3L F05
66	ED-394923J	D ZENER H HZS9B2
67	ED-388368J	D ZENER H HZS9B3L F05
68	ED-387765J	D ZENER H HZS9C1L F05
69	ED-324526	D ZENER H HZ12 C1
70	ED-322046	D ZENER H HZ18 1
71	ED-329449	D ZENER H HZ18 3
72	ED-307236	D ZENER H HZ22 1
73	ED-337295	D ZENER H HZ3 C3
74	ED-346630	D ZENER H HZ36 2
75	ED-319167	D ZENER H HZ6 C3
76	ED-201581	D ZENER H HZ7 B1
77	ED-346542	D ZENER H HZ9B3L [EK/EOH/EO/EOG]
78	ED-400982J	D ZENER H MTZJ7.5B T26
79	ED-400984J	D ZENER H MTZ2.4A T26 [F600]
80	EE-387607J	TV TUNER TERB1-008A EK [EK]
81	EE-387604J1	TV TUNER TERE1-007B EOG [EOG]
82	EE-390143J1	TV TUNER TERE3-001B EOH [EO/EOH-E]
83	EE-389626J	TV TUNER TERE3-003A FTZ.EOH [EOH-V]
84	EE-387600J	TV TUNER TERS1-002A EA [EA]
85	*EF-355398	FUSE BET T 250V 2.00A [EK]
86	*EF-601301	FUSE SEMKO T 250V 2.00A [EA/EOH/EO/EOG]
87	EH-360306	COMP R RKC1/8B7 103J
88	EH-400747J	DL *V1123 (1) [EA/EK]
89	EH-400748J	DL ADL-FE2248Q [EOH-E/EOH-V/EO/EOG-V]
90	EH-725827J	FILTER CE SAF32.9MDE70Z [EK]
91	EH-725828J	FILTER CE SAF33.0MDA70Z [EO]
92	EH-373916	FILTER CE SAF36.9MZ70Z [EA]
93	EH-730625J	FILTER CE SAF38.9MZW70Z [EO/EOH/EOG]
94	EH-373917	FILTER CE SAF39.5MZ70Z [EK]
95	EH-366894	FILTER CE SFE-4.16MB 4.16MHZ [EOG-V]
96	EH-712603	FILTER CE SFT5.5MA [EO]
97	EH-394948J	FILTER CE SFT5.5MA
98	EH-394947J	FILTER CE SFT5.74MA
99	EH-725829J	FILTER CE SFT6.0MA [EK]
100	EH-368948	FILTER CE TPS5.5MW 5.5000MHZ [EA/EO/EOH/EOG]
101	EH-373919	FILTER CE TPS6.0MB [EK]
102	EH-394684J	FILTER EMI ZBF503D-00TA T05
103	EH-397511J	FILTER LC BP H316BQKS-2982QDD [EO]
104	EH-394984J	FILTER LC BP SFB41743
105	EH-382829J	FILTER LC BP TH316BQM-2110QDAF [EK]
106	EH-364045	FILTER LC FF-78P
107	EH-394858J	FILTER LC LP MYV-2V2
108	EH-402170J	FILTER LC LP SEL-5065
109	EH-732529J	FILTER SAW SAF31.4MC70Z [EA]

Ref.No.	Part No.	Description
110	EH-732528J	FILTER SAW SAF33.4MC70Z [EOH/EOG]
111	EI-394680J	IC AN3171K
112	EI-396454J	IC AN3267K
113	EI-373981J1	IC BA10393N
114	EI-367572	IC BA15218
115	EI-373980	IC BA15218N
116	EI-381575J	IC BA6121
117	EI-364896	IC BA6138
118	EI-397299J	IC BA6229-U2
119	EI-366892	IC BA7025L [EOG-V]
120	EI-393786J	IC BA7046
121	EI-387586J	IC BA7244BS
122	EI-394983J	IC BA7703K1
123	EI-397285J	IC BA7740S
124	EI-388360J	IC BA7765AS
125	EI-356457	IC BU4013B
126	EI-354640	IC BU4052B
127	EI-394937J	IC CF70124
128	EI-394949J	IC IR3P72
129	EI-349591	IC LA2730
130	EI-360586	IC LA6358S
131	EI-394839J	IC LA7332
132	EI-729997J	IC LA7575
133	EI-390053J	IC LA7910 [EA/EOH-E/EOH-V/EO/EOG-V]
134	EI-394951J	IC LB1215
135	EI-394856J	IC LC8992
136	EI-394686J	IC LH2464-12
137	EI-381838J1	IC LM1875T
138	EI-394679J	IC LVA523S-2
139	EI-389622J	IC L5631
140	EI-387019J	IC MC1377
141	EI-394981J	IC MN67520 HFX SYP1-XAT
142	EI-394999J	IC M50198P
143	EI-395000J	IC M50927HFXAUDI-230
144	EI-393324J	IC M5218AL
145	EI-393325J	IC M5218AP
146	EI-201940	IC NJM4558S
147	EI-394613J	IC S-8052ALO-LG-T1
148	EI-373955	IC S-8053ALR
149	EI-385958J	IC SAA4700
150	EI-394677J	IC SAA5190
151	EI-394938J	IC SAA7320GP
152	EI-394678J	IC SAA9041P/A
153	EI-382827J	IC TA8662N
154	EI-397123J	IC TA8703S [EK/EO]
155	EI-330391	IC TC4050BP
156	EI-310036	IC TC4066BP [F600]
157	EI-351966	IC TC9176P
158	EI-400762J	IC UPD17203GC HFXUNR2-553
159	EI-396456J	IC UPD6450CX-504
160	EI-396449J	IC UPD75217CW HFXOPP1-017
161	EI-396499J	IC UPD75217CW HFXVPT2-014
162	EI-400760J	IC UPD75306GF HFXEAR1-129 [RC-V605/V655]
163	EI-395096J	IC UPD75306GF HFXREM5-120 [RC-V600/650]
164	EI-394681J	IC X2402P
165	EI-400671J	OSC CE CHIP KBR4.00MCS-TR
166	EI-394614J	OSC CE CSA2.20MG 2.200MHZ
167	EI-395001J	OSC CE CST2.00MG 2.000MHZ
168	EI-395002J	OSC CE CST3.27MGW 3.270MHZ
169	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
170	EI-394674J	OSC X'TAL HC-49/U 13500KHZ
171	EI-394675J	OSC X'TAL HC-49/U 13875KHZ
172	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ
173	EI-389640J	OSC X'TAL HC-49/U 8000KHZ
174	EI-394673J	OSC X'TAL HC-49/U 8867.238KHZ
175	EI-368825	OSC X'TAL MX-38T 32.768KHZ
176	EI-394939J	OSC X'TAL NR-18 16.384MHZ
177	EI-382833J	OSC X'TAL NR-18 5.824MHZ
178	EI-382832J	OSC X'TAL NR-18 5.850MHZ [EO]
179	EI-382831J	OSC X'TAL NR-18 6.552MHZ [EK]
180	EI-381632J	OSC X'TAL(86686) 4.433619MHZ
181	EM-396431J	IND FL BG-811GK DOUBLE [EA/EK/EOH/EO]
182	EM-396442J	IND FL BG-812GK DOUBLE [EOG]
183	EM-390786J	IND LCD LF5293G ENGLISH
184	*EO-400980J	COIL LF FKOB160MH23 800.0UH [EOG-V]
185	EO-395035J	COIL LF PLH11C-1811R2
186	EO-388362J	COIL OSC 1 V1102 [A650]
187	EO-388363J	COIL OSC 1 V1105-1 [F600]
188	EO-388349J	COIL OSC 1 V1105-2 [F600]
189	*ER-328278	R FUSE H ERD2FC 1/4W 10R0G
190	ER-397354J	R FUSE V T05 ERD2FC 1/4W 39R0G
191	*ER-397353J	R FUSE V T05 ERD2FC 1/4W 47R0G
192	ER-397524J	R FUSE V T05 ERD2FC 1/4W 6R8J
193	*ER-397386J	R FUSE V T05 ERD2FC 1/4W 8R2J
194	*ER-400688J	R FUSE V T05 RF25SCVTP1/4WR10K
195	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
196	*ER-397385J	R FUSE V T05 RF25SCVTP1/4WR20K
197	*ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K
198	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K
199	ES-373099	SW LEAF MTS10110MPC1
200	ES-387465J	SW MODE SELECT MMS00070ZLBO [SW1]
201	ES-397339J	SW SLIDE ESD-170252 [TAPE SELECTOR]
202	ES-373973	SW SLIDE HSW0810-010 1-01-02S [A650]
203	ES-394485J	SW SLIDE SSSS21 1-01-03N
204	ES-400670J	SW SLIDE SSSS21 2-01-04N [RC-V604/V654]
205	ES-393431J	SW TACT CHIP SKHUAB T12E
206	ES-349367	SW TACT SKHHAK003A [SYSTEM RESET]
207	ES-349474	SW TACT SKHHAM004A [VOLUME UP]
208	ET-381637J2	DETECTOR GP1U521X
209	ET-731437J	TR CHIP DTC114EK [EOH-V/EOG-V]
210	ET-713614	TR CHIP 2SA1235 E,F [EK/EO]
211	ET-725820J	TR CHIP 2SC2735J
212	ET-370819	TR CHIP 2SC3052
213	ET-393335J	TR CHIP 2SC3938-TW R,S
214	ET-356336	TR DTA114ES
215	ET-363953	TR DTA114TS
216	ET-372030	TR DTA144EF
217	ET-354415	TR DTA144ES
218	ET-373985	TR DTA144TS
219	ET-353897	TR DTC114ES
220	ET-360399	TR DTC114TS
221	ET-354371	TR DTC124ES
222	ET-375986	TR DTC124TS
223	ET-364060	TR DTC143ES
224	ET-354414	TR DTC144ES [EK/EOH-E/EOH-V/EO/EOG-V]
225	ET-370310	TR DTC144TS
226	ET-356236	TR FET 2SK363 GR,BL [EOH-E/EOH-V/EO]
227	ET-361490	TR PHOTO PN268 R,S [PTR1]
228	ET-390010J	TR PHOTO PT4800 [PTR2][PTR3]
229	ET-390009J	TR PHOTO PT493F [PTR4]
230	ET-364040	TR UN421D
231	ET-356224	TR 2SA1286 G,H,J F05
232	ET-353899	TR 2SA1317 S,T,U [EA/EK/EOG-V]
233	ET-366365	TR 2SB1185 E,F
234	ET-395084J	TR 2SB1331 R T05
235	ET-400965J	TR 2SB1357 E,F T05
236	ET-388338J	TR 2SB1425 S,E
237	ET-370038	TR 2SC2910 S,T
238	ET-375777	TR 2SC2926S P,Q
239	ET-397160J	TR 2SC3330 R,S,T,U,V
240	ET-366168	TR 2SD1292 Q,R
241	ET-380685J	TR 2SD1761 E,F,G
242	ET-366581	TR 2SD1762 E,F
243	ET-400964J	TR 2SD2034 E,F T05
244	ET-396072J	TR 2SD2159 V,W F05
245	ET-390826J	TR.CHIP 2SD1619 T,U TC T08
246	EV-394998J	VR ROTARY XVR09N8.5F B104 [INPUT BALANCE]
247	EV-396445J	VR SLIDE RS30B223J K203X2 [REC LEVEL]
248	HE-361456	HEAD E HVFMD0015B
249	HR-400939J	HEAD COMBO HVMZA1111A
250	MB-387289J	BELT CAPSTAN
251	MI-387294J	IDLLER PART
252	ML-391745J2	ARM DAMPER
253	ML-387350J1	ARM LID OPENER
254	ML-387277J3	ARM REVIEW PART
255	ML-387402J	LEVER TRIGGER
256	ML-387316J	MAIN BRAKE(S) PART
257	ML-387318J	MAIN BRAKE(T) PART
258	ML-401682J	REVIEW BRAKE(2) PART
259	ML-396018J	SLIDER BRAKE(2) PART
260	ML-387327J	SLIDER TRIGGER
261	MR-387406J	HOLDER THRUST WORM
262	MR-391968J	PULLEY TRIGGER(2)
263	MR-387286J1	ROLLER IMPEDANCE
264	MT-390954J1	DISK (2)PART
265	MZ-387298J2	DISK CLUTCH PART
266	MZ-396021J	GEAR CAM SLIDER(2)
267	MZ-387335J	GEAR EJECT
268	MZ-387333J	GEAR FRONT LOADING
269	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
270	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
271	MZ-387330J	GEAR WORM PART
272	MZ-387332J	GEAR WORM WHEEL

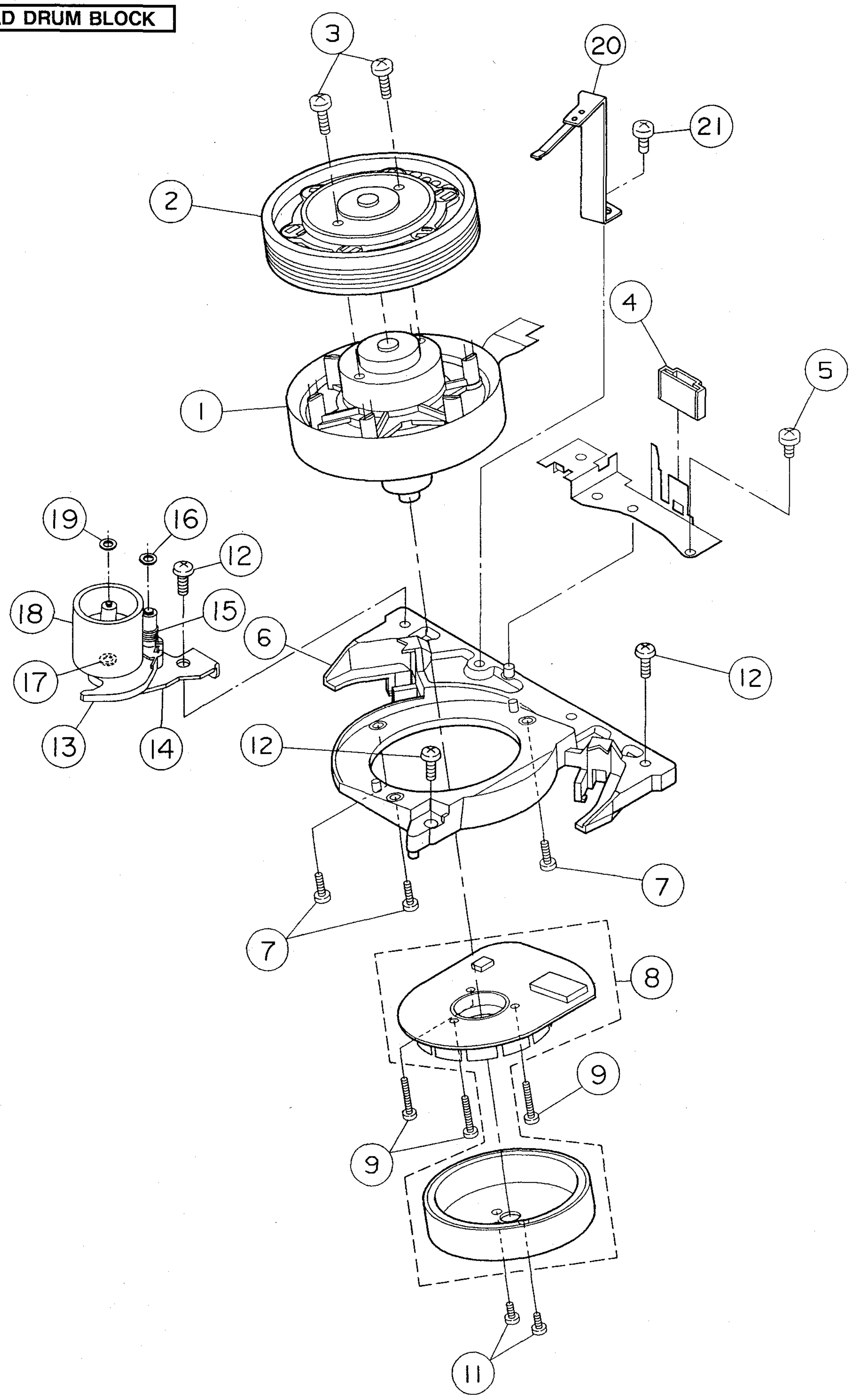
2. HEAD DRUM BLOCK

Ref.No.	Part No.	Description
1	BV-V1123A410C	LOWER DRUM BLK F600EA
2	BV-V1123A420C	UPPER DRUM BLK F600EA
3	ZS-321298	BID30X08STL CMT
4	SZ-387388J	HOLDER FPC
5	ZS-379405	BID30X06STL CMT
6	MA-387474J1	BASE DRUM
7	ZS-563444	BID26X08STL CMT
8	BM-394844J	MOTOR E20 EL82 [DRUM MOTOR]
9	ZS-467796	PAN26X12STL CMT
11	ZS-379350	PAN30X06STL CMT
12	ZS-370047	DT BID30X12STL CMT
13	ML-392137J	ARM IMPEDANCE PART
14	MZ-392144J	PLATE IMPEDANCE PART
15	ZG-392143J	SP TORSION IMPEDANCE
16	ZW-392224J	SLIT W26X050X050PSL
17	ZW-392225J	PW21X044X025PSL
18	MR-364335	ROLLER IMPEDANCE
19	ZW-392226J	SLIT W16X040X050PSL
20	VT-400664J1	EARTH BRUSH PART
21	ZS-364543	DT BID30X06STL CMT

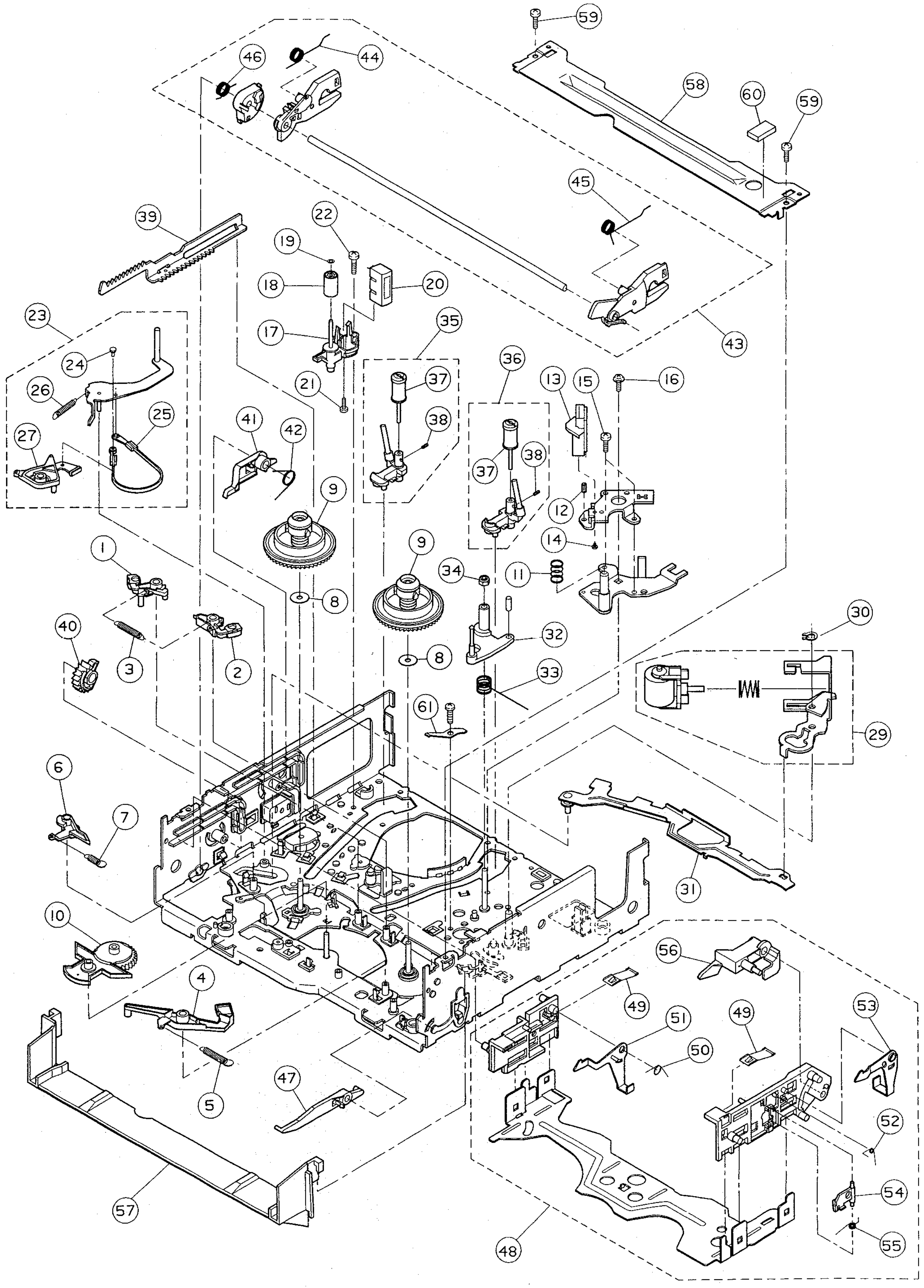
NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

HEAD DRUM BLOCK



MECHA BLOCK (1)



3. MECHA BLOCK (1)

Ref.No.	Part No.	Description
1	ML-387316J	MAIN BRAKE(S) PART
2	ML-387318J	MAIN BRAKE(T) PART
3	ZG-387320J	SP PULL MAIN BRAKE
4	ML-401682J	REVIEW BRAKE(2) PART
5	ZG-387323J	SP PULL REVIEW BRAKE
8	ZW-389814J	PW31X110X050PSL
9	MT-390954J1	DISK (2)PART
10	MI-387294J	IDLLER PART
11	ZG-387438J	SP PUSH A/C
12	ZG-373900	6SET30X080SCM PKR CP
13	HR-400939J	HEAD COMBO HVMZA1111A
14	ZS-373899	PAN20X2.5STL BDY PS1
15	ZS-321298	BID30X08STL CMT
16	ZS-389853J	DT BID30X06STL CMT C080
17	MZ-387495J3	HOLDER FE HEAD PART
18	MR-387286J1	ROLLER IMPEDANCE
19	ZW-374445	SLIT W17X032X025PSL
20	HE-361456	HEAD E HVFMD0015B
21	ZS-460438	BID20X03STL CMT
22	ZS-370047	DT BID30X12STL CMT
23	BL-V1123A050A	TENSION BLK F600EA
24	SZ-387263J1	HOLDER LEVER TENSION
25	ML-390768J	TENSION BAND PART
26	ZG-395470J	SP PULL TENSION(2)
27	ML-395471J	TENSION BRAKE PART
29	BL-V1102A160A	ARM PINCH ROLLER(2)BLK 425EA
30	ZW-332843	RETAINING RING GRIP 380STL ACP
31	ML-387431J	SLIDER PINCH PART
32	ML-387277J3	ARM REVIEW PART
33	ZG-387282J	SP TORSION REVIEW
34	ZW-350839	N30 NYLON
35	BV-V1102A070A	LEADER S BLK 425EA
36	BV-V1102A080A	LEADER T BLK 425EA
37	VT-387394J1	GUIDE ROLLER D8 PART
38	ZS-374458	6SET20X030SCM PKR FP
39	ML-387428J	SLIDER FRONT LOADING
40	MZ-387335J	GEAR EJECT
41	ML-391745J2	ARM DAMPER
42	ZG-395567J	SP TORSION ARM DAMPER
43	BL-V1102A140A	ARM LOADING BLK 425EA
44	ZG-387417J	SP TORSION LOAD(S)
45	ZG-387418J	SP TORSION LOAD(T)
46	ZG-392831J	SP TORSION JOINT(2)
47	ML-387350J1	ARM LID OPENER
48	BV-V1102A150A	CASSETTE LOAD BLK 425EA
49	ZG-387348J1	SP PLATE HOLDER
50	ZG-387421J	SP TORSION DAMPER(S)
51	ML-387345J	LEVER DAMPER(S)
52	ZG-388290J1	SP TORSION DAMPER(T)
53	ML-387346J	LEVER DAMPER(T)
54	ML-387344J	LEVER LOCK RELEASE
55	ZG-387420J	SP TORSION RELEASE
56	ML-387349J1	ARM SHUTTER
57	SE-395554J	GUIDE FRONT(2)
58	MZ-387351J1	PLATE UPPER
59	ZS-364543	DT BID30X06STL CMT
60	SZ-401677J	CUSHION COVER
61	ZG-392294J	SP PLATE EARTH
62	BB-V1102A020J	MECHA DECK BLK F600EA

NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

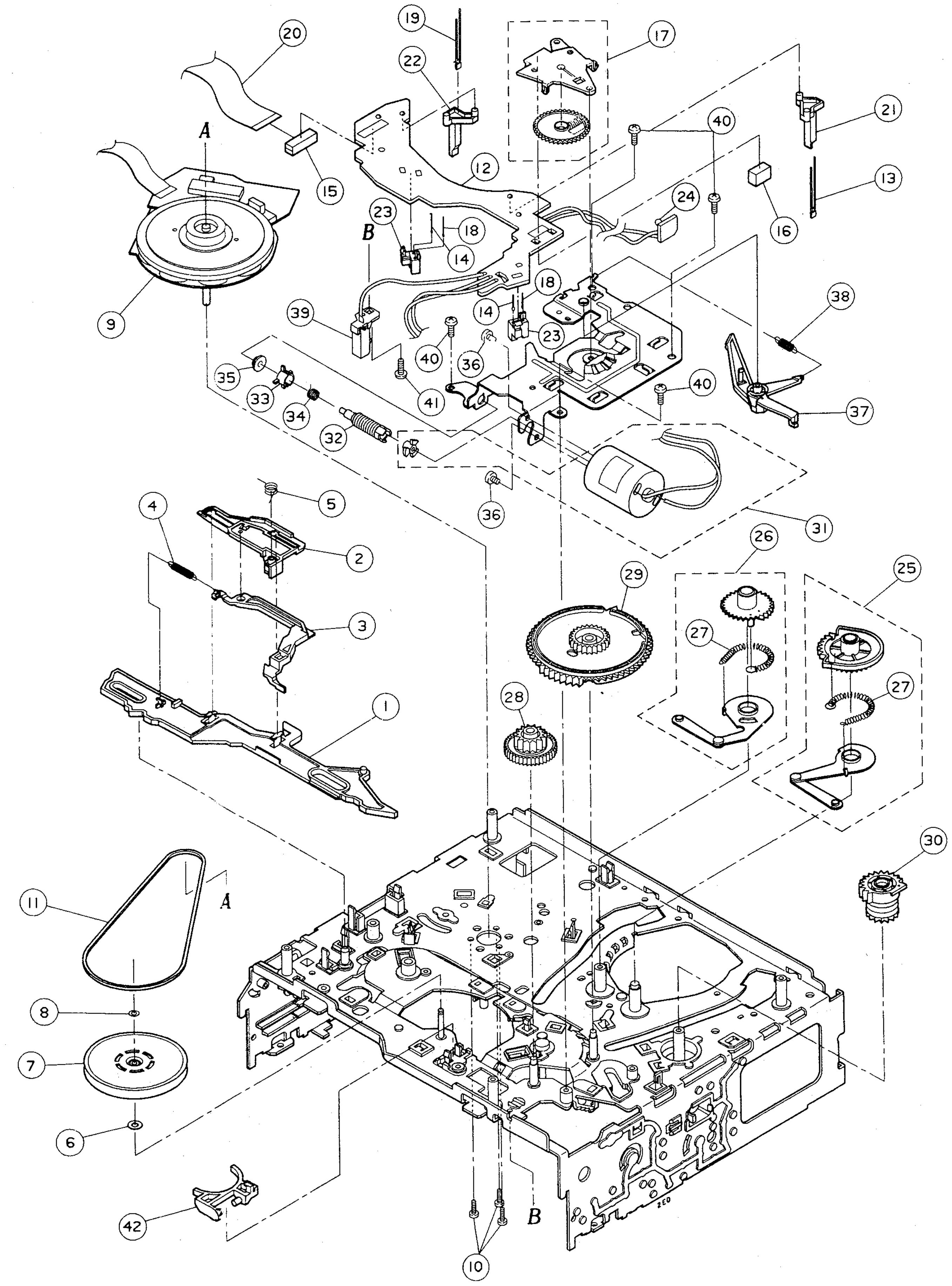
4. MECHA BLOCK (2)

Ref.No.	Part No.	Description
1	ML-396018J	SLIDER BRAKE(2) PART
2	ML-387327J	SLIDER TRIGGER
3	ML-387402J	LEVER TRIGGER
4	ZG-387468J	SP PULL SLIDER
5	ZG-387403J	SP TORSION COUPLING
6	ZW-389923J	PW26X060X050PSL
7	MZ-387298J2	DISK CLUTCH PART
8	ZW-387492J	SLIT W21X040X050PSL
9	BM-400682J	MOTOR DFX-67B3VWB1 [CAPSTAN MOTOR]
10	ZS-365149	PT BID26X06STL CMT
11	MB-387289J	BELT CAPSTAN
12	EA-387496J	PC(#)SENSOR
13	ED-390011J	D LED GL451 INFRARED [D1]
14	ED-390012J	D LED GL4800 INFRARED [D2][D3]
15	EJ-387497J	SOCKET HOUSING 5062-30-10-13 [PS1]
16	EJ-381837J	SOCKET 174074-5 5P [P1]
17	ES-387465J	SW MODE SELECT MMS00070ZLBO [SW1]
18	ET-390010J	TR PHOTO PT4800 [PTR2][PTR3]
19	ET-390009J	TR PHOTO PT493F [PTR4]
20	EW-389313J	CORD FFC P1.25 L=120 13P [WP1]
21	MZ-387430J	HOLDER D-LED
22	MZ-387445J	HOLDER S SENSOR
23	MZ-387446J	HOLDER PHOTO SENSOR
24	ET-361490	TR PHOTO PN268 R,S [PTR1]
25	MZ-V1102A090A	GEAR TOGGLE (S) BLK 425EA
26	MZ-V1102A100A	GEAR TOGGLE (T) BLK 425EA
27	ZG-387413J1	SP PULL TOGGLE
28	MZ-387332J	GEAR WORM WHEEL
29	MZ-396021J	GEAR CAM SLIDER(2)
30	MZ-387333J	GEAR FRONT LOADING
31	BM-387503J	MOTOR PART [LOADING MOTOR]
32	MZ-387330J	GEAR WORM PART
33	MR-391968J	PULLEY TRIGGER(2)
34	ZG-387443J	SP TRIGGER
35	MR-387406J	HOLDER THRUST WORM
36	ZS-425981	BID30X03STL CMT
37	BL-387458J2	CAPSTAN BRAKE PART
38	ZG-387502J	SP PULL CAPSTAN BRAKE
39	ES-373099	SW LEAF MTS10110MPC1
40	ZS-389950J	PT BID26X10STL CMT
41	ZS-364543	DT BID30X06STL CMT
42	ML-387311J1	ARM COUPLING

NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

MECHA BLOCK (2)



5. P.C BOARD BLOCK

Ref.No.	Part No.	Description
1A	BA-V1123A600A	PC(#) MAIN(1) BLK F600EA [F600EA]
1B	BA-V1123A600B	PC(#) MAIN(1) BLK F600EK [F600EK]
1C	BA-V1123A600C	PC(#) MAIN(1) BLK F600EOH(E) [F600EOH-E]
1D	BA-V1123A600D	PC(#) MAIN(1) BLK F600EOH(V) [F600EOH-V]
1E	BA-V1123A600E	PC(#) MAIN(1) BLK F600EO [F600EO]
1F	BA-V1123A600F	PC(#) MAIN(1) BLK F600EOG-V [F600EOG-V]
1G	BA-V1125A600A	PC(#) MAIN(1) BLK A650EA [A650EA]
1H	BA-V1125A600B	PC(#) MAIN(1) BLK A650EK [A650EK]
1I	BA-V1125A600C	PC(#) MAIN(1) BLK A650EOH(E) [A650EOH-E]
1J	BA-V1125A600D	PC(#) MAIN(1) BLK A650EOH(V) [A650EOH-V]
1K	BA-V1125A600E	PC(#) MAIN(1) BLK A650EO [A650EO]
1L	BA-V1125A600F	PC(#) MAIN(1) BLK A650EOG-V [A650EOG-V]
2A	BA-V1123A500A	PC(#) POWER(1) BLK F600EA [F600EA]
2B	BA-V1123A500B	PC(#) POWER(1) BLK F600EK [F600EK]
2C	BA-V1123A500C	PC(#) POWER(1) BLK F600EOH(E) [F600EOH-E/EOH-V/EO]
2D	BA-V1123A500D	PC(#) POWER(1) BLK F600EOG-V [F600EOG-V]
2E	BA-V1125A500B	PC(#) POWER(2) BLK A650EA [A650EA]
2F	BA-V1125A500C	PC(#) POWER(2) BLK A650EK [A650EK]
2G	BA-V1125A500D	PC(#) POWER(2) BLK A650EOH [A650EOH-E/EOH-V]
2H	BA-V1125A500E	PC(#) POWER(2) BLK A650EOG [A650EOG-V]
3A	BA-V1123A620A	PC OPERATION(1)BLK F600EA [F600EA]
3B	BA-V1123A620B	PC OPERATION(1)BLK F600EK [F600EK]
3C	BA-V1123A620C	PC OPERATION(1)BLK F600EOH [F600EOH-E/EOH-V]
3D	BA-V1123A620D	PC OPERATION(1)BLK F600EO [F600EO]
3E	BA-V1123A620E	PC OPERATION(1)BLK F600EOG-V [F600EOG-V]
3F	BA-V1125A620A	PC OPERATION(1)BLK A650EA [A650EA]
3G	BA-V1125A620B	PC OPERATION(1)BLK A650EK [A650EK]
3H	BA-V1125A620C	PC OPERATION(1)BLK A650EOH [A650EOH-E/EOH-V]
3I	BA-V1125A620D	PC OPERATION(1)BLK A650EO [A650EO]
3J	BA-V1125A620E	PC OPERATION(1)BLK A650EOG-V [A650EOG-V]
4A	BA-V1123A630A	PC—OPERATION(2)BLK F600EA [F600EA]
4B	BA-V1123A630B	PC—OPERATION(2)BLK F600EK [F600EK]
4C	BA-V1123A630C	PC—OPERATION(2)BLK F600EOH [F600EOH-E/EOH-V]
4D	BA-V1123A630D	PC—OPERATION(2)BLK F600EO [F600EO]
4E	BA-V1123A630E	PC—OPERATION(2)BLK F600EOG-V [F600EOG-V]
4F	BA-V1125A630A	PC—OPERATION(2)BLK A650EA [A650EA]
4G	BA-V1125A630B	PC—OPERATION(2)BLK A650EK [A650EK]
4H	BA-V1125A630C	PC—OPERATION(2)BLK A650EOH [A650EOH-E/EOH-V]
4I	BA-V1125A630D	PC—OPERATION(2)BLK A650EO [A650EO]
4J	BA-V1125A630E	PC—OPERATION(2)BLK A650EOG-V [A650EOG-V]
5A	BA-V1123A610A	PC PRE AMP BLK F600EA [F600]
5B	BA-V1123A610D	PC PRE AMP BLK A650EA [A650]

PC (#) MAIN (1) BLK CONSISTS OF FOLLOWING P.C BOARD.

- MAIN (1) P.C BOARD
- SERVO/SYSCON P.C BOARD
- I/O P.C BOARD
- VIF UNIT
- I-HQ P.C BOARD

PC (#) POWER (1) BLK CONSISTS OF FOLLOWING P.C BOARD.

- POWER SUPPLY (1) P.C BOARD (F600)
- DIODE P.C BOARD (F600)

PC (#) POWER (2) BLK CONSISTS OF FOLLOWING P.C BOARD.

- POWER SUPPLY (2) P.C BOARD (A650)
- DIODE (1) P.C BOARD (A650)
- DIODE (2) P.C BOARD (A650)

PC (#) OPERATION (2) BLK CONSISTS OF FOLLOWING P.C BOARD.

- OPERATION (2) P.C BOARD
- REC VOLUME P.C BOARD

6. MAIN P.C BOARD

Ref.No.	Part No.	Description
C77	EC-391843J	C DOUBLE FYDOH 223Z 5.5DC
C238	EC-356284	C S-FIX H VCT51G 7.5- 50
DL151	EH-400747J	DL *V1123 (1) [EA/EK]
DL151A	EH-400748J	DL ADL-FE2248Q [EOH-E/EOH-V/EO/EOG-V]
D1	ED-307572	D SILICON H 1SS131 [EOH-V/EOG-V]
D2	ED-307572	D SILICON H 1SS131 [EOH-V/EOG-V]
D3	ED-307572	D SILICON H 1SS131 [EOH-E/EOH-V/EO]
D4	ED-367502	D ZENER H HZS9A1L F05 [EOH-E/EOH-V/EO]
D5	ED-307572	D SILICON H 1SS131 [EOH-V]
D6	ED-307572	D SILICON H 1SS131
D7	ED-307572	D SILICON H 1SS131
D8	ED-307572	D SILICON H 1SS131 [EA/EOH-E/EOH-V/EO/EOG-V]
D11	ED-307572	D SILICON H 1SS131
D12	ED-387765J	D ZENER H HZS9C1L F05
D13	ED-387919J	D ZENER H HZS6A1L F05
D72	ED-397399J	D ZENER H HZS3C3
D73	ED-397233J	D ZENER H HZS5C3
D74	ED-307572	D SILICON H 1SS131
D75	ED-397289J	D ZENER H HZS20-2
D101	ED-392779J	D SCHOTTKY 1SS198 T26
D102	ED-307572	D SILICON H 1SS131
D103	ED-307572	D SILICON H 1SS131
D104	ED-378530J	D ZENER H HZS6B2L F05
D151	ED-307572	D SILICON H 1SS131
D152	ED-307572	D SILICON H 1SS131
D201	ED-307572	D SILICON H 1SS131
D210	ED-307572	D SILICON H 1SS131
D211	ED-388368J	D ZENER H HZS9B3L F05
D241	ED-307572	D SILICON H 1SS131 [EOH-E/EOH-V/EO/EOG-V]
D242	ED-307572	D SILICON H 1SS131 [EOH-E/EOH-V/EO/EOG-V]
D243	ED-307572	D SILICON H 1SS131
D244	ED-307572	D SILICON H 1SS131
D245	ED-307572	D SILICON H 1SS131
D300	ED-307572	D SILICON H 1SS131
D301	ED-388368J	D ZENER H HZS9B3L F05

Ref.No.	Part No.	Description
D302	ED-397399J	D ZENER H HZS3C3
D303	ED-337295	D ZENER H HZ3 C3
D370	ED-307572	D SILICON H 1SS131
D371	ED-307572	D SILICON H 1SS131
D372	ED-307572	D SILICON H 1SS131
D373	ED-307572	D SILICON H 1SS131
D374	ED-307572	D SILICON H 1SS131
D375	ED-307572	D SILICON H 1SS131
D401	ED-307572	D SILICON H 1SS131
D406	ED-307572	D SILICON H 1SS131
FL101	EH-402170J	FILTER LC LP SEL-5065
FL151	EH-364045	FILTER LC FF-78P
FL152	EH-366894	FILTER CE SFE-4.16MB 4.16MHZ [EOG-V]
FL211	EH-394858J	FILTER LC LP MYV-2V2
FL300	EO-388363J	COIL OSC 1 V1105-1 [F600]
FL300A	EO-388362J	COIL OSC 1 V1102 [A650]
FL400	EH-394984J	FILTER LC BP SFB41743
IC1	EI-390053J	IC LA7910 [EA/EOH-E/EOH-V/EO/EOG-V]
IC2	EI-389622J	IC L5631
IC70	EI-393324J	IC M5218AL
IC101	EI-396454J	IC AN3267K
IC151	EI-394839J	IC LA7332
IC152	EI-366892	IC BA7025L [EOG-V]
IC211	EI-394856J	IC LC8992
IC241	EI-396456J	IC UPD6450CX-504
IC300	EI-388360J	IC BA7765AS
IC400	EI-394983J	IC BA7703K1
IC401	EI-310036	IC TC4066BP [F600]
IC402	EI-364896	IC BA6138
L100	EO-354600	COIL FIX 1 LAP02 F05 101K
L101	EO-351868	COIL FIX 1 LAP02 F05 470K
L102	EO-357508	COIL FIX 1 LAP02 F05 151K
L103	EO-345880	COIL FIX 1 EL0606SKI 820J
L104	EO-360555	COIL FIX 1 LAP02 F05 180K
L105	EO-354600	COIL FIX 1 LAP02 F05 101K
L106	EO-351862	COIL FIX 1 LAP02 F05 100K
L107	EO-354600	COIL FIX 1 LAP02 F05 101K
L151	EO-345989	COIL FIX 1 EL0606RA T05 390J
L153	EO-388087J	COIL FIX 1 LF-5.0S F05 331K
L154	EO-388353J	COIL FIX 1 LF-5.0S F05 471K
L155	EO-364966	COIL FIX 1 LAP02 F05 120K [EOH-E/EOH-V/EO/EOG-V]
L156	EO-345880	COIL FIX 1 EL0606SKI 820J
L157	EO-345871	COIL FIX 1 EL0606SKI 180J
L158	EO-397359J	COIL FIX 1 EL0606SKI 1R2J
L159	EO-345880	COIL FIX 1 EL0606SKI 820J
L160	EO-397389J	COIL FIX 1 EL0606SKI 4R7J
L161	EO-345880	COIL FIX 1 EL0606SKI 820J
L162	EO-353900	COIL FIX 1 LAP02 F05 150K
L163	EO-345880	COIL FIX 1 EL0606SKI 820J [EOG-V]
L164	EO-388087J	COIL FIX 1 LF-5.0S F05 331K
L165	EO-388087J	COIL FIX 1 LF-5.0S F05 331K
L211	EO-387782J	COIL FIX 1 EL0405SKI 2R2K
L213	EO-376860	COIL FIX 1 LF-5.0S F05 820K
L240	EO-351868	COIL FIX 1 LAP02 F05 470K
L241	EO-345880	COIL FIX 1 EL0606SKI 820J
L242	EO-376610	COIL FIX 1 LF-5.0S F05 330K
L243	EO-376606	COIL FIX 1 LF-5.0S F05 180K [EOH-E/EOH-V/EO/EOG-V]
L244	EO-376860	COIL FIX 1 LF-5.0S F05 820K [EA/EOH-E/EOH-V/EO/EOG-V]
L245	EO-345880	COIL FIX 1 EL0606SKI 820J
L271	EO-345880	COIL FIX 1 EL0606SKI 820J
L300	EO-354600	COIL FIX 1 LAP02 F05 101K
L302	EO-390717J	COIL FIX 1 LHL06TB T05 103J
L370	EO-351866	COIL FIX 1 LAP02 F05 330K
L400	EO-354600	COIL FIX 1 LAP02 F05 101K
L401	EO-354600	COIL FIX 1 LAP02 F05 101K
L402	EO-354600	COIL FIX 1 LAP02 F05 101K
MD1	BV-387610J	RF CONVERTER YAA21-0453 EA [EA]
MD1A	BV-387635J1	RF CONVERTER MDLK6B063B EK [EK]
MD1B	BV-387632J1	RF CONVERTER MDLK6D063B EO [EO/EOH-E/EOH-V/EOG]

Ref.No.	Part No.	Description
PJ101	EJ-381862J	PIN J JPJ2025-01-020 RED 1P [A650]
PJ102	EJ-381863J	PIN J JPJ2025-01-030 WHITE 1P [A650]
SW1	ES-373973	SW SLIDE HSW0810-010 1-01-02S [A650]
TM101	EJ-395047J	TERMINAL PUSH LQR0410-1007 4P [A650]
TR1	ET-353899	TR 2SA1317 S,T,U [EA/EK/EOG-V]
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-353899	TR 2SA1317 S,T,U
TR4	ET-356236	TR FET 2SK363 GR,BL [EOH-E/EOH-V/EO]
TR5	ET-375986	TR DTC124TS
TR6	ET-397160J	TR 2SC3330 R,S,T,U,V [EOH-E/EOH-V/EO]
TR7	ET-375777	TR 2SC2926S P,Q
TR8	ET-353899	TR 2SA1317 S,T,U
TR10	ET-396072J	TR 2SD2159 V,W F05
TR11	ET-353899	TR 2SA1317 S,T,U
TR12	ET-353899	TR 2SA1317 S,T,U
TR13	ET-397160J	TR 2SC3330 R,S,T,U,V
TR14	ET-397160J	TR 2SC3330 R,S,T,U,V
TR17	ET-354414	TR DTC144ES [EK/EOH-E/EOH-V/EO/EOG-V]
TR71	ET-356336	TR DTA114ES
TR72	ET-397160J	TR 2SC3330 R,S,T,U,V
TR73	ET-366168	TR 2SD1292 Q,R
TR74	ET-366168	TR 2SD1292 Q,R
TR101	ET-354371	TR DTC124ES
TR102	ET-354414	TR DTC144ES
TR103	ET-353897	TR DTC114ES
TR105	ET-354415	TR DTA144ES
TR106	ET-354415	TR DTA144ES
TR108	ET-354414	TR DTC144ES
TR109	ET-354414	TR DTC144ES
TR110	ET-364040	TR UN421D
TR111	ET-354415	TR DTA144ES
TR112	ET-356224	TR 2SA1286 G,H,J F05
TR113	ET-370310	TR DTC144TS
TR114	ET-354414	TR DTC144ES
TR150	ET-397160J	TR 2SC3330 R,S,T,U,V
TR151	ET-397160J	TR 2SC3330 R,S,T,U,V
TR152	ET-397160J	TR 2SC3330 R,S,T,U,V
TR153	ET-353899	TR 2SA1317 S,T,U
TR154	ET-397160J	TR 2SC3330 R,S,T,U,V
TR155	ET-397160J	TR 2SC3330 R,S,T,U,V
TR156	ET-354414	TR DTC144ES [EOH-E/EOH-V/EO/EOG]
TR157	ET-354415	TR DTA144ES [EOH-E/EOH-V/EO/EOG]
TR158	ET-388338J	TR 2SB1425 S,E
TR159	ET-353899	TR 2SA1317 S,T,U
TR160	ET-353897	TR DTC114ES
TR161	ET-354414	TR DTC144ES
TR162	ET-397160J	TR 2SC3330 R,S,T,U,V
TR163	ET-353899	TR 2SA1317 S,T,U
TR164	ET-397160J	TR 2SC3330 R,S,T,U,V [EOG-V]
TR165	ET-397160J	TR 2SC3330 R,S,T,U,V [EOG-V]
TR166	ET-353897	TR DTC114ES [EOG-V]
TR167	ET-353897	TR DTC114ES [EOG-V]
TR168	ET-370310	TR DTC144TS
TR169	ET-370310	TR DTC144TS
TR170	ET-397160J	TR 2SC3330 R,S,T,U,V
TR201	ET-353899	TR 2SA1317 S,T,U
TR202	ET-353899	TR 2SA1317 S,T,U
TR211	ET-366168	TR 2SD1292 Q,R
TR212	ET-353899	TR 2SA1317 S,T,U
TR225	ET-397160J	TR 2SC3330 R,S,T,U,V
TR241	ET-356336	TR DTA114ES [EOH-E/EOH-V/EO/EOG-V]
TR242	ET-356336	TR DTA114ES [EOH-E/EOH-V/EO/EOG-V]
TR243	ET-397160J	TR 2SC3330 R,S,T,U,V [EOH-E/EOH-V/EO/EOG-V]
TR244	ET-397160J	TR 2SC3330 R,S,T,U,V
TR245	ET-353899	TR 2SA1317 S,T,U

Ref.No.	Part No.	Description
TR246	ET-354414	TR DTC144ES
TR248	ET-353899	TR 2SA1317 S,T,U
TR249	ET-397160J	TR 2SC3330 R,S,T,U,V [EA/EOH-E/EOH-V/EO/EOG-V]
TR250	ET-397160J	TR 2SC3330 R,S,T,U,V
TR271	ET-353899	TR 2SA1317 S,T,U
TR272	ET-353899	TR 2SA1317 S,T,U
TR300	ET-366168	TR 2SD1292 Q,R
TR301	ET-397160J	TR 2SC3330 R,S,T,U,V
TR310	ET-397160J	TR 2SC3330 R,S,T,U,V
TR311	ET-397160J	TR 2SC3330 R,S,T,U,V
TR312	ET-360399	TR DTC114TS
TR313	ET-360399	TR DTC114TS [EK/EO]
TR370	ET-397160J	TR 2SC3330 R,S,T,U,V
TR400	ET-397160J	TR 2SC3330 R,S,T,U,V
TR401	ET-353899	TR 2SA1317 S,T,U
TR402	ET-354414	TR DTC144ES [F600]
TR403	ET-397160J	TR 2SC3330 R,S,T,U,V
TR404	ET-397160J	TR 2SC3330 R,S,T,U,V
TR405	ET-360399	TR DTC114TS
TR406	ET-360399	TR DTC114TS
TR407	ET-354415	TR DTA144ES
TR408	ET-353897	TR DTC114ES
TR409	ET-356336	TR DTA114ES
TR410	ET-353897	TR DTC114ES
VL151	EO-366893	COIL VARI 1 21D6 8.20MH [EOG-V]
VR101	EV-389478J	R S-FIX H T05EVNDXAA03 0.1W153
VR102	EV-389478J	R S-FIX H T05EVNDXAA03 0.1W153
VR103	EV-389489J	R S-FIX H T05EVNDXAA03 0.1W472
VR104	EV-389482J	R S-FIX H T05EVNDXAA03 0.1W682
VR105	EV-389480J	R S-FIX H T05EVNDXAA03 0.1W332
VR211	EV-389476J	R S-FIX H T05EVNDXAA03 0.1W103
VR300	EV-389477J	R S-FIX H T05EVNDXAA03 0.1W104
VR301	EV-389476J	R S-FIX H T05EVNDXAA03 0.1W103
VR400	EV-389479J	R S-FIX H T05EVNDXAA03 0.1W223
VR401	EV-389476J	R S-FIX H T05EVNDXAA03 0.1W103
VR402	EV-389479J	R S-FIX H T05EVNDXAA03 0.1W223
VR403	EV-389476J	R S-FIX H T05EVNDXAA03 0.1W103
VR404	EV-389476J	R S-FIX H T05EVNDXAA03 0.1W103
VR406	EV-389478J	R S-FIX H T05EVNDXAA03 0.1W153
VR407	EV-389478J	R S-FIX H T05EVNDXAA03 0.1W153
X151	EI-381632J	OSC X'TAL(86686) 4.433619MHZ
X241	EI-389974J	OSC X'TAL HC-49/U 17.734475MHZ
1	SP-396027J	PANEL REAR JACK EA [F600EA]
1A	SP-396028J	PANEL REAR JACK EK [F600EK/EO/EOH-E/EOH-V]
1B	SP-396032J	PANEL REAR JACK EOG-V [F600EOG]
1C	SP-396046J	PANEL REAR JACK EA(AMP) [A650EA]
1D	SP-396047J	PANEL REAR JACK EK(AMP) [A650EK/EO/EOH-E/EOH-V]
1E	SP-396051J	PANEL REAR JACK EOG-V(AMP) [A650EOG]
2	EE-387600J	TV TUNER TERS1-002A EA [EA]
2A	EE-387607J	TV TUNER TERB1-008A EK [EK]
2B	EE-390143J1	TV TUNER TERE3-001B EOH [EO/EOH-E]
2C	EE-389626J	TV TUNER TERE3-003A FTZ.EOH [EOH-V]
2D	EE-387604J1	TV TUNER TERE1-007B EOG [EOG]

7. SERVO/SYSCON P.C BOARD

Ref.No.	Part No.	Description
D600	ED-511907	D SILICON 1N4002 100/1.0A
D601	ED-307572	D SILICON H 1SS131
D603	ED-307572	D SILICON H 1SS131
D604	ED-307572	D SILICON H 1SS131
D605	ED-307572	D SILICON H 1SS131
D606	ED-307572	D SILICON H 1SS131
D607	ED-307572	D SILICON H 1SS131
D608	ED-307572	D SILICON H 1SS131
D609	ED-388368J	D ZENER H HZS9B3L F05
D610	ED-387763J	D ZENER H HZS7B3L F05
D611	ED-307572	D SILICON H 1SS131
D612	ED-307572	D SILICON H 1SS131
D613	ED-307572	D SILICON H 1SS131
D614	ED-624903	D SILICON H 1S2473
IC500	EI-393786J	IC BA7046
IC600	EI-373980	IC BA15218N
IC601	EI-360586	IC LA6358S
IC602	EI-397299J	IC BA6229-U2
IC603	EI-394981J	IC MN67520 HFX SYP1-XAT
IC604	EI-354640	IC BU4052B
L500	EO-354600	COIL FIX 1 LAP02 F05 101K
L600	EO-345876	COIL FIX 1 EL0606SKI 470J
L601	EO-354600	COIL FIX 1 LAP02 F05 101K
L602	EO-354600	COIL FIX 1 LAP02 F05 101K
R500	ER-397173J	R OMF V T05 FS 1W 1R0J
R601	ER-397173J	R OMF V T05 FS 1W 1R0J
R647	ER-394671J	R OMF V T05 FS 1W R47J
TR500	ET-388338J	TR 2SB1425 S,E
TR501	ET-397160J	TR 2SC3330 R,S,T,U,V
TR502	ET-353899	TR 2SA1317 S,T,U
TR600	ET-397160J	TR 2SC3330 R,S,T,U,V
TR601	ET-373985	TR DTA144TS
TR602	ET-354414	TR DTC144ES
TR603	ET-373985	TR DTA144TS
TR604	ET-354414	TR DTC144ES
TR605	ET-373985	TR DTA144TS
TR606	ET-354414	TR DTC144ES
TR607	ET-363953	TR DTA114TS
TR608	ET-397160J	TR 2SC3330 R,S,T,U,V
TR609	ET-353899	TR 2SA1317 S,T,U
TR610	ET-373985	TR DTA144TS
TR611	ET-353899	TR 2SA1317 S,T,U
VR500	EV-389481J	R S-FIX H T05EVNDXAA03 0.1W473
VR600	EV-400764J	R S-FIX V T05EVNDCAA03 0.1W303
VR601	EV-390425J1	R S-FIX H T05 RH0638C 0.1W 222
X600	EI-389640J	OSC X'TAL HC-49/U 8000KHZ

8. I/O P.C BOARD

Ref.No.	Part No.	Description
D701	ED-346542	D ZENER H HZ9B3L [EK/EOH/EO/EOG]
D702	ED-307572	D SILICON H 1SS131
IC701	EI-310036	IC TC4066BP
L701	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L702	EO-354600	COIL FIX 1 LAP02 F05 101K
PJ701	EJ-389864J	SOCKET M1817 21P [EK/EOH/EO/EOG]
PJ702	EJ-389324J	PIN J YKB11-0178 1P
PJ703	EJ-389325J	PIN J YKB11-0179 1P
PJ704	EJ-389325J	PIN J YKB11-0179 1P [EA]
PJ704A	EJ-389980J	PIN J YKB11-0176 WHITE 1P [EK/EOH/EO/EOG]
PJ705	EJ-389324J	PIN J YKB11-0178 1P [EA]
PJ705A	EJ-389979J	PIN J YKB11-0175 RED 1P [EK/EOH/EO/EOG]
PJ706	EJ-389323J	PIN J YKB11-0180 1P [EA]
PJ707	EJ-389323J	PIN J YKB11-0180 1P [EA]
TR700	ET-353899	TR 2SA1317 S,T,U
TR701	ET-397160J	TR 2SC3330 R,S,T,U,V
TR702	ET-397160J	TR 2SC3330 R,S,T,U,V
TR703	ET-356336	TR DTA114ES
TR704	ET-356336	TR DTA114ES
TR705	ET-354414	TR DTC144ES
TR706	ET-356336	TR DTA114ES
TR707	ET-354414	TR DTC144ES

9. VIF UNIT

Ref.No.	Part No.	Description
CF1	EH-373916	FILTER CE SAF36.9MZ70Z [EA]
CF1A	EH-373917	FILTER CE SAF39.5MZ70Z [EK]
CF1B	EH-730625J	FILTER CE SAF38.9MZW70Z [EO/EOH/EOG]
CF2	EH-368948	FILTER CE TPS5.5MW 5.5000MHZ [EA/EO/EOH/EOG]
CF2A	EH-373919	FILTER CE TPS6.0MB [EK]
CF3	EH-725829J	FILTER CE SFT6.0MA [EK]
CF3A	EH-712603	FILTER CE SFT5.5MA [EO]
CF4	EH-732529J	FILTER SAW SAF31.4MC70Z [EA]
CF4A	EH-725827J	FILTER CE SAF32.9MDE70Z [EK]
CF4B	EH-725828J	FILTER CE SAF33.0MDA70Z [EO]
CF4C	EH-732528J	FILTER SAW SAF33.4MC70Z [EOH/EOG]
IC1	EI-729997J	IC LA7575
IC2	EI-397123J	IC TA8703S [EK/EO]
L1	EO-725824J	COIL TRAP 6F16185A1 [EOH-V/EOG-V]
L2	EO-725825J	COIL TRAP 6F16186A1 [EOH-V/EOG-V]
L3	EO-381188J	COIL FIX 1 EL0405SKI 1R0K [EA]
L3A	EO-381187J	COIL FIX 1 EL0405SKI R68M [EK]
L3B	EO-391141J	COIL FIX 1 EL0405SKI R47M [EO/EOH-E]
L4	EO-392817J	COIL FIX 1 EL0405SKI 1R2K [EA/EOH/EOG]
L4A	EO-381188J	COIL FIX 1 EL0405SKI 1R0K [EK/EO]
L5	EO-725954J	COIL SIF DET 6F16263A3 [EK]
L5A	EO-725953J	COIL SIF DET 6F16263A2 [EO]
L6	EO-388160J	COIL FIX 1 EL0405SKI 1R8K [EA/EOH/EOG]
L7	EO-714616	COIL RF 6F16115B3 [EA]
L7A	EO-714614	COIL RF 6F16115B1 [EK/EO/EOH/EOG]
L8	EO-732526J	COIL OSC 6F16403A2 [EA]
L8A	EO-729998J	COIL OSC 6F16403A1 [EK/EO/EOH/EOG]
L9	EO-387781J	COIL FIX 1 EL0405SKI 120K
L10	EO-381196J	COIL FIX 1 EL0405SKI 470K
L11	EO-714610	COIL RF 6F16113B1 [EK/EO]
Q1	ET-725820J	TR CHIP 2SC2735J
Q2	ET-731437J	TR CHIP DTC114EK [EOH-V/EOG-V]
Q3	ET-731437J	TR CHIP DTC114EK [EOH-V/EOG-V]
Q5	ET-713614	TR CHIP 2SA1235 E,F [EK/EO]
Q6	ET-370819	TR CHIP 2SC3052
VR1	EV-729999J	R S-FIX V RVF6W01 303
VR2	EV-729999J	R S-FIX V RVF6W01 303 [EOH-V/EOG-V]
VR3	EV-367240	R S-FIX V RVF6W01 0.10W 103 [EK/EO]

10. I-HQ P.C BOARD

Ref.No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131
D4	ED-307572	D SILICON H 1SS131
IC1	EI-201940	IC NJM4558S
IC2	EI-394951J	IC LB1215
L1	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
TR1	ET-397160J	TR 2SC3330 R,S,T,U,V
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-354414	TR DTC144ES
TR4	ET-397160J	TR 2SC3330 R,S,T,U,V
TR5	ET-397160J	TR 2SC3330 R,S,T,U,V
TR6	ET-397160J	TR 2SC3330 R,S,T,U,V
TR7	ET-397160J	TR 2SC3330 R,S,T,U,V
TR8	ET-397160J	TR 2SC3330 R,S,T,U,V
TR9	ET-397160J	TR 2SC3330 R,S,T,U,V
TR10	ET-353899	TR 2SA1317 S,T,U
TR11	ET-353899	TR 2SA1317 S,T,U
TR12	ET-354414	TR DTC144ES

11. PRE-AMP P.C BOARD

Ref.No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131
D101	ED-400984J	D ZENER H MTZ2.4A T26 [F600]
FL101	EO-388349J	COIL OSC 1 V1105-2 [F600]
IC1	EI-387586J	IC BA7244BS
IC2	EI-356457	IC BU4013B
IC101	EI-397285J	IC BA7740S
L1	EO-376612	COIL FIX 1 LF-5.0S F05 680K
L2	EO-376857	COIL FIX 1 LF-5.0S F05 5R6K
L3	EO-381195J	COIL FIX 1 EL0405SKI 331K
L4	EO-376859	COIL FIX 1 LF-5.0S F05 8R2K
L5	EO-376606	COIL FIX 1 LF-5.0S F05 180K
L6	EO-381193J	COIL FIX 1 EL0405SKI 271K
L7	EO-376860	COIL FIX 1 LF-5.0S F05 820K
L8	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L9	EO-376614	COIL FIX 1 LF-5.0S F05 220K
L10	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L11	EO-345881	COIL FIX 1 EL0606SKI 101J
L12	EO-376607	COIL FIX 1 LF-5.0S F05 181K
L13	EO-376612	COIL FIX 1 LF-5.0S F05 680K
L14	EO-376600	COIL FIX 1 LF-5.0S F05 101K
L101	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L102	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L103	EO-390716J	COIL FIX 1 LHL06TB T05 272J [F600]
P1	EJ-373834J	SOCKET 8370-107-800 10P
PS1	EJ-373831J	SOCKET HOUSING 5062-30-10-21
TR1	ET-354414	TR DTC144ES
TR2	ET-353899	TR 2SA1317 S,T,U
TR3	ET-397160J	TR 2SC3330 R,S,T,U,V
TR4	ET-397160J	TR 2SC3330 R,S,T,U,V
TR5	ET-397160J	TR 2SC3330 R,S,T,U,V
TR7	ET-397160J	TR 2SC3330 R,S,T,U,V
TR8	ET-353897	TR DTC114ES
TR9	ET-364040	TR UN421D
TR11	ET-364040	TR UN421D
TR13	ET-354414	TR DTC144ES
TR14	ET-397160J	TR 2SC3330 R,S,T,U,V
TR16	ET-353899	TR 2SA1317 S,T,U
TR17	ET-353899	TR 2SA1317 S,T,U
TR18	ET-360399	TR DTC114TS
TR19	ET-364040	TR UN421D
TR20	ET-364040	TR UN421D
TR101	ET-370310	TR DTC144TS
TR102	ET-397160J	TR 2SC3330 R,S,T,U,V [F600]
VR1	EV-390157J	R S-FIX V KVSF639A 0.10W 102
VR2	EV-390157J	R S-FIX V KVSF639A 0.10W 102
WP1	EW-396429J	CORD FFC P1.25 L=190 21P

12. OPERATION (1) P.C BOARD

Ref.No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131 [F600]
D2	ED-307572	D SILICON H 1SS131 [F600]
D3	ED-307572	D SILICON H 1SS131 [EOH/EO/EOG]
D4	ED-307572	D SILICON H 1SS131 [EOG]
D5	ED-307572	D SILICON H 1SS131 [EA]
D6	ED-307572	D SILICON H 1SS131 [EK]
D7	ED-307572	D SILICON H 1SS131 [EOH/EO]
D8	ED-307572	D SILICON H 1SS131 [EK/EO]
D10	ED-397340J	D LED GL-5HY41 YELLOW
D11	ED-365622	D LED GL-5PR41 RED
D12	ED-387765J	D ZENER H HZS9C1L F05
D13	ED-307572	D SILICON H 1SS131
FL1	EM-396431J	IND FL BG-811GK DOUBLE [EA/EK/EOH/EO]
FL1A	EM-396442J	IND FL BG-812GK DOUBLE [EOG]
IB1	EH-367912	COMP R RKM6L502F
IB2	EH-393781J	COMP R RGLE13X 103J
IB3	EH-378540J	COMP R RGLE5X 103J
IB4	EH-385846J	COMP R RGLE8X 473J
IB5	EH-386639J	COMP R RGLE4X 223J
IB6	EH-378541J	COMP R RGLE3X 473J
IB7	EH-383054J	COMP R RGLD4X473J
IC1	EI-330391	IC TC4050BP
IC2	EI-373981J1	IC BA10393N
IC3	EI-396449J	IC UPD75217CW HFXOPP1-017
IC4	EI-373955	IC S-8053ALR
IC5	EI-394681J	IC X2402P
L1	EO-354600	COIL FIX 1 LAP02 F05 101K [F600]
L2	EO-351864	COIL FIX 1 LAL02 F05 220J
L3	EO-360554	COIL FIX 1 LAP02 F05 221K
PH1	ET-381637J2	DETECTOR GP1U521X
PJ1	EJ-396453J	PIN J JPJ5022-01-030 1P [F600][FRONT AUDIO IN L]
PJ2	EJ-396452J	PIN J JPJ5022-01-020 1P [F600][FRONT AUDIO IN R]
PJ3	EJ-387623J	PIN J JPJ5022-01-040 1P [F600][FRONT VIDEO IN]
TR1	ET-397160J	TR 2SC3330 R,S,T,U,V [F600]
TR4	ET-354414	TR DTC144ES
TR5	ET-364060	TR DTC143ES
TR6	ET-364060	TR DTC143ES
TR7	ET-364060	TR DTC143ES
X1	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X2	EI-368825	OSC X'TAL MX-38T 32.768KHZ

13. OPERATION (2) P.C BOARD

Ref.No.	Part No.	Description
D1	ED-307572	D SILICON H 1SS131
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131
D4	ED-307572	D SILICON H 1SS131
D6	ED-307572	D SILICON H 1SS131
D7	ED-307572	D SILICON H 1SS131 [EOH/EO/EOG]
D8	ED-307572	D SILICON H 1SS131
D9	ED-307572	D SILICON H 1SS131 [EK/EO]
D10	ED-307572	D SILICON H 1SS131
D11	ED-307572	D SILICON H 1SS131
D12	ED-307572	D SILICON H 1SS131
D13	ED-307572	D SILICON H 1SS131
D14	ED-307572	D SILICON H 1SS131
SW1	ES-349367	SW TACT SKHHAK003A [SYSTEM RESET]
SW2	ES-349367	SW TACT SKHHAK003A [POWER]
SW3	ES-349367	SW TACT SKHHAK003A [TIMER]
SW4	ES-349367	SW TACT SKHHAK003A [EJECT]
SW5	ES-397339J	SW SLIDE ESD-170252 [TAPE SELECTOR]
SW6	ES-349367	SW TACT SKHHAK003A [TV/VCR]
SW7	ES-349367	SW TACT SKHHAK003A [MULTI SPEED]
SW8	ES-349367	SW TACT SKHHAK003A [REW]
SW9	ES-397339J	SW SLIDE ESD-170252 [EOH/EO/EOG][PAL/MESECAM]
SW10	ES-349367	SW TACT SKHHAK003A [REV SLOW]
SW11	ES-349367	SW TACT SKHHAK003A [STOP]
SW12	ES-397339J	SW SLIDE ESD-170252 [EOH/EO/EOG][VPS AUTO REC]
SW13	ES-349367	SW TACT SKHHAK003A [STILL]
SW14	ES-349367	SW TACT SKHHAK003A [MULTI SPEED]
SW15	ES-349367	SW TACT SKHHAK003A [PLAY]
SW16	ES-397339J	SW SLIDE ESD-170252 [EK/EO][AUTO REC EPTION]
SW17	ES-349367	SW TACT SKHHAK003A [SLOW]
SW18	ES-349367	SW TACT SKHHAK003A [F600][AUDIO DUB]
SW19	ES-349367	SW TACT SKHHAK003A [F.FWD]
SW20	ES-397339J	SW SLIDE ESD-170252 [EDIT]
SW21	ES-349367	SW TACT SKHHAK003A [SPEED]
SW22	ES-349367	SW TACT SKHHAK003A [I-HQ]
SW23	ES-349367	SW TACT SKHHAK003A [REC]
SW24	ES-397339J	SW SLIDE ESD-170252 [AUDIO SELECT]
SW25	ES-349367	SW TACT SKHHAK003A [CHANNEL DOWN]
SW26	ES-349367	SW TACT SKHHAK003A [QUICK TIMER M]
SW27	ES-349367	SW TACT SKHHAK003A [PAUSE]
SW28	ES-349367	SW TACT SKHHAK003A [CHANNEL UP]
SW29	ES-349367	SW TACT SKHHAK003A [QUICK TIMER UP]
SW30	ES-349367	SW TACT SKHHAK003A [QUICK TIMER STOP]
TR1	ET-372030	TR DTA144EF

14. REC VOLUME P.C BOARD

Ref.No.	Part No.	Description
VR1	EV-396445J	VR SLIDE RS30B223J K203X2 [REC LEVEL]

15. POWER SUPPLY (1) P.C BOARD (F600)

Ref.No.	Part No.	Description
C1	EC-363490	C EC V CUT SME 222M 16.0DC
C4	EC-363491	C EC V CUT SME 222M 25.0DC
C7	EC-363491	C EC V CUT SME 222M 25.0DC
C13	EC-367048	C EC V CUT SME 101M 63.0DC
C15	EC-367048	C EC V CUT SME 101M 63.0DC
D1	ED-511907	D SILICON 1N4002 100/1.0A
D3	ED-511907	D SILICON 1N4002 100/1.0A
D4	ED-324526	D ZENER H HZ12 C1
D6	ED-322046	D ZENER H HZ18 1
D7	ED-400982J	D ZENER H MTZJ7.5B T26
D8	ED-511907	D SILICON 1N4002 100/1.0A
D9	ED-511907	D SILICON 1N4002 100/1.0A
D10	ED-329449	D ZENER H HZ18 3
D11	ED-307236	D ZENER H HZ22 1
D12	ED-346630	D ZENER H HZ36 2
D13	ED-201581	D ZENER H HZ7 B1
D14	ED-511907	D SILICON 1N4002 100/1.0A
D15	ED-511907	D SILICON 1N4002 100/1.0A
D16	ED-511907	D SILICON 1N4002 100/1.0A
D17	ED-511907	D SILICON 1N4002 100/1.0A
D18	ED-511907	D SILICON 1N4002 100/1.0A
D19	ED-319167	D ZENER H HZ6 C3
D20	ED-511907	D SILICON 1N4002 100/1.0A
FL1	EO-395035J	COIL LF PLH11C-1811R2
FL2	*EO-400980J	COIL LF FKOB160MH23 800.0UH [EOG-V]
FR1	*ER-397385J	R FUSE V T05 RF25SCVTP1/4WR20K
FR2	*ER-400728J	R FUSE V T05 RF25SCVTP1/4WR12K
FR3	*ER-400688J	R FUSE V T05 RF25SCVTP1/4WR10K
FR4	*ER-397386J	R FUSE V T05 ERD2FC 1/4W 8R2J
FR5	*ER-328278	R FUSE H ERD2FC 1/4W 10R0G
FR6	*ER-400688J	R FUSE V T05 RF25SCVTP1/4WR10K
TR1	ET-380685J	TR 2SD1761 E,F,G
TR2	ET-380685J	TR 2SD1761 E,F,G
TR3	ET-380685J	TR 2SD1761 E,F,G
TR4	ET-397160J	TR 2SC3330 R,S,T,U,V
TR5	ET-380685J	TR 2SD1761 E,F,G
TR6	ET-397160J	TR 2SC3330 R,S,T,U,V
TR7	ET-380685J	TR 2SD1761 E,F,G
TR8	ET-366168	TR 2SD1292 Q,R
TR9	ET-388338J	TR 2SB1425 S,E
TR10	ET-397160J	TR 2SC3330 R,S,T,U,V
TR11	ET-397160J	TR 2SC3330 R,S,T,U,V

16. DIODE P.C BOARD (F600)

Ref.No.	Part No.	Description
D5	ED-389296J	D SILICON BR31-B-D-80 100/3.0A [EA/EK/EOH-E/EOH-V/EO]
D5A	ED-357037	D SILICON DBA30B 100/ 3.0A [EOG-V]

17. POWER SUPPLY (2) P.C BOARD (A650)

Ref.No.	Part No.	Description
C1	EC-364958	C EC V CUT SME 222M 35.0DC
C5	EC-364958	C EC V CUT SME 222M 35.0DC
C9	EC-363491	C EC V CUT SME 222M 25.0DC
C13	EC-364958	C EC V CUT SME 222M 35.0DC
D1	ED-397289J	D ZENER H HZS20-2
D2	ED-307572	D SILICON H 1SS131
D3	ED-397289J	D ZENER H HZS20-2
D4	ED-307572	D SILICON H 1SS131
D5	ED-396065J	D ZENER H HZS12C-1
D6	ED-378530J	D ZENER H HZS6B2L F05
D7	ED-387946J	D SCHOTTKY RB100AT-62 T05
D8	ED-396067J	D ZENER H HZS18-1
D9	ED-378530J	D ZENER H HZS6B2L F05
D10	ED-387946J	D SCHOTTKY RB100AT-62 T05
D11	ED-307572	D SILICON H 1SS131
D12	ED-396061J	D ZENER H HZS5B3
D13	ED-396062J	D ZENER H HZS36-2
D14	ED-307572	D SILICON H 1SS131
D15	ED-307572	D SILICON H 1SS131
D16	ED-396063J	D ZENER H HZS7B-1
D18	ED-511907	D SILICON 1N4002 100/1.0A
D20	ED-307572	D SILICON H 1SS131
D21	ED-307572	D SILICON H 1SS131
D22	ED-511907	D SILICON 1N4002 100/1.0A
D23	ED-511907	D SILICON 1N4002 100/1.0A
D24	ED-511907	D SILICON 1N4002 100/1.0A
D25	ED-307572	D SILICON H 1SS131
D26	ED-307572	D SILICON H 1SS131
FL2	EO-400980J	COIL LF FKOB160MH23 800.0UH [EOG]
FR1	*ER-400688J	R FUSE V T05 RF25SCVTP1/4WR10K
FR3	*ER-400689J	R FUSE V T05 RF25SCVTP1/4WR68K
FR4	*ER-400729J	R FUSE V T05 RF25SCVTP1/4WR47K
FR6	*ER-400688J	R FUSE V T05 RF25SCVTP1/4WR10K
FR7	*ER-328278	R FUSE H ERD2FC 1/4W 10R0G
F2	*EF-601301	FUSE SEMKO T 250V 2.00A [EA/EOH/EO/EOG]
F2A	*EF-355398	FUSE BET T 250V 2.00A [EK]
F3	*EF-601301	FUSE SEMKO T 250V 2.00A [EA/EOH/EO/EOG]
F3A	*EF-355398	FUSE BET T 250V 2.00A [EK]
F4	*EF-601301	FUSE SEMKO T 250V 2.00A (EA/EOH/EO/EOG)
F4A	*EF-355398	FUSE BET T 250V 2.00A [EK]
IC1	EI-381575J	IC BA6121
L1	EO-400963J	COIL FIX 2 PF-15 101K
L4	EO-400963J	COIL FIX 2 PF-15 101K
L6	EO-397531J	COIL FIX 2 PF10 152M
TR1	ET-380685J	TR 2SD1761 E,F,G
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-397160J	TR 2SC3330 R,S,T,U,V
TR4	ET-353899	TR 2SA1317 S,T,U
TR5	ET-353899	TR 2SA1317 S,T,U
TR6	ET-380685J	TR 2SD1761 E,F,G
TR7	ET-380685J	TR 2SD1761 E,F,G
TR8	ET-397160J	TR 2SC3330 R,S,T,U,V
TR9	ET-380685J	TR 2SD1761 E,F,G
TR10	ET-395084J	TR 2SB1331 R T05
TR11	ET-373985	TR DTA144TS
TR12	ET-400964J	TR 2SD2034 E,F T05
TR13	ET-397160J	TR 2SC3330 R,S,T,U,V
TR14	ET-400965J	TR 2SB1357 E,F T05
TR15	ET-373985	TR DTA144TS
TR16	ET-380685J	TR 2SD1761 E,F,G
TR17	ET-366168	TR 2SD1292 Q,R
TR18	ET-353899	TR 2SA1317 S,T,U
TR19	ET-353899	TR 2SA1317 S,T,U
TR20	ET-397160J	TR 2SC3330 R,S,T,U,V
TR21	ET-354414	TR DTC144ES
TR22	ET-353899	TR 2SA1317 S,T,U

18. DIODE (1) P.C BOARD (A650)

Ref.No.	Part No.	Description
D19	ED-379298	D SILICON DBA20B 100/2.0A

19. DIODE (2) P.C BOARD (A650)

Ref.No.	Part No.	Description
D17	ED-357037	D SILICON DBA30B 100/ 3.0A

20. NICAM P.C BOARD (EK/EO ONLY)

Ref.No.	Part No.	Description
D1	ED-394936J	D VARACTOR 1SV111
D2	ED-307572	D SILICON H 1SS131
D3	ED-307572	D SILICON H 1SS131
D4	ED-364032	D ZENER H HZS10B2J F05
FR58	*ER-397353J	R FUSE V T05 ERD2FC 1/4W 47R0G
IC1	EI-382827J	IC TA8662N
IC2	EI-394937J	IC CF70124
IC3	EI-394938J	IC SAA7320GP
IC4	EI-393325J	IC M5218AP
L1	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L2	EO-381198J	COIL FIX 1 EL0405SKI 821K
L3	EO-381198J	COIL FIX 1 EL0405SKI 821K
L4	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L5	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L6	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L7	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
L8	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
T1	EH-382829J	FILTER LC BP TH316BQM-2110QDAF [EK]
T1A	EH-397511J	FILTER LC BP H316BQKS-2982QDD [EO]
TR1	ET-397160J	TR 2SC3330 R,S,T,U,V
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR3	ET-397160J	TR 2SC3330 R,S,T,U,V
TR4	ET-397160J	TR 2SC3330 R,S,T,U,V
TR5	ET-370310	TR DTC144TS
TR6	ET-397160J	TR 2SC3330 R,S,T,U,V
TR7	ET-397160J	TR 2SC3330 R,S,T,U,V
TR8	ET-370310	TR DTC144TS
TR9	ET-373985	TR DTA144TS
VC1	EC-397179J	C S-FIX H T05 VCT51E 4.5-20
VC2	EC-397180J	C S-FIX H T05 VCT51C 3.0-10
X1	EI-382831J	OSC X'TAL NR-18 6.552MHZ [EK]
X1A	EI-382832J	OSC X'TAL NR-18 5.850MHZ [EO]
X2	EI-382833J	OSC X'TAL NR-18 5.824MHZ
X3	EI-394939J	OSC X'TAL NR-18 16.384MHZ

21. W.G MULTI P.C BOARD (EA/EOH/EOG)

Ref.No.	Part No.	Description
D1	ED-364032	D ZENER H HZS10B2J F05
FL1	EH-394947J	FILTER CE SFT5.74MA
FL2	EH-394948J	FILTER CE SFT5.5MA
FR22	ER-397354J	R FUSE V T05 ERD2FC 1/4W 39R0G
IC1	EI-394949J	IC IR3P72
L1	EO-376179	COIL FIX 1 ALF-7.5F F05 101K
T1	EO-396464J	COIL DET 1 134-5177
T2	EO-394950J	COIL DET 1 134-5176
VR1	EV-396023J	R S-FIX H T05EVNDXAA03 0.1W222
VR2	EV-389479J	R S-FIX H T05EVNDXAA03 0.1W223
VR3	EV-355372	R S-FIX H RH0615C 0.10W 105
VR4	EV-396024J	R S-FIX H T05EVNDXAA03 0.1W474
VR5	EV-389477J	R S-FIX H T05EVNDXAA03 0.1W104
VR6	EV-389479J	R S-FIX H T05EVNDXAA03 0.1W223
VR7	EV-389479J	R S-FIX H T05EVNDXAA03 0.1W223

22. VPT (2) P.C BOARD (EOG-V ONLY)

Ref.No.	Part No.	Description
D101	ED-307572	D SILICON H 1SS131
D401	ED-307572	D SILICON H 1SS131
D501	ED-307572	D SILICON H 1SS131
FL101	EH-394684J	FILTER EMI ZBF503D-00TA T05
IB101	EH-360306	COMP R RKC1/8B7 103J
IC101	EI-385958J	IC SAA4700
IC201	EI-396499J	IC UPD75217CW HFXVPT2-014
IC202	EI-387019J	IC MC1377
IC203	EI-394677J	IC SAA5190
IC204	EI-394678J	IC SAA9041P/A
IC205	EI-394686J	IC LH2464-12
IC206	EI-394680J	IC AN3171K
IC207	EI-394679J	IC LVA523S-2
IC208	EI-394681J	IC X2402P
IC209	EI-394681J	IC X2402P
L101	EO-345865	COIL FIX 1 EL0606SKI 100J
L102	EO-345865	COIL FIX 1 EL0606SKI 100J
L104	EO-345865	COIL FIX 1 EL0606SKI 100J
L201	EO-345865	COIL FIX 1 EL0606SKI 100J
L210	EO-345865	COIL FIX 1 EL0606SKI 100J
L301	EO-345865	COIL FIX 1 EL0606SKI 100J
L302	EO-345876	COIL FIX 1 EL0606SKI 470J
L303	EO-345999	COIL FIX 1 EL0606RA T05 181J
L304	EO-345999	COIL FIX 1 EL0606RA T05 181J
L305	EO-345994	COIL FIX 1 EL0606RA T05 820J
L401	EO-345975	COIL FIX 1 EL0606RA T05 4R7K
L402	EO-345869	COIL FIX 1 EL0606SKI 150J
L501	EO-345865	COIL FIX 1 EL0606SKI 100J
L502	EO-345874	COIL FIX 1 EL0606SKI 330J
L503	EO-345874	COIL FIX 1 EL0606SKI 330J
L504	EO-345871	COIL FIX 1 EL0606SKI 180J
L505	EO-345873	COIL FIX 1 EL0606SKI 270J
L506	EO-345989	COIL FIX 1 EL0606RA T05 390J
TR101	ET-397160J	TR 2SC3330 R,S,T,U,V
TR102	ET-364060	TR DTC143ES
TR301	ET-397160J	TR 2SC3330 R,S,T,U,V
TR302	ET-353899	TR 2SA1317 S,T,U
TR303	ET-353899	TR 2SA1317 S,T,U
TR304	ET-397160J	TR 2SC3330 R,S,T,U,V
TR305	ET-397160J	TR 2SC3330 R,S,T,U,V
TR401	ET-397160J	TR 2SC3330 R,S,T,U,V
TR402	ET-354415	TR DTA144ES
TR403	ET-353899	TR 2SA1317 S,T,U
TR501	ET-353899	TR 2SA1317 S,T,U
TR502	ET-353899	TR 2SA1317 S,T,U
TR503	ET-397160J	TR 2SC3330 R,S,T,U,V
TR504	ET-397160J	TR 2SC3330 R,S,T,U,V
TR505	ET-397160J	TR 2SC3330 R,S,T,U,V
X201	EI-373957J1	OSC CE CST4.19MGW 4.194MHZ
X203	EI-394675J	OSC X'TAL HC-49/U 13875KHZ
X204	EI-394674J	OSC X'TAL HC-49/U 13500KHZ
X301	EI-394673J	OSC X'TAL HC-49/U 8867.238KHZ

23. SUROUND P.C BOARD (A650 ONLY)

Ref.No.	Part No.	Description
D4	ED-394923J	D ZENER H HZS9B2
D5	ED-394924J	D ZENER H HZS5C1
IB1	EH-397099J	COMP R RGLE7X 473J
IB2	EH-383099J	COMP R RGLE4X 472J
IC1	EI-367572	IC BA15218
IC2	EI-367572	IC BA15218
IC3	EI-367572	IC BA15218
IC4	EI-394999J	IC M50198P
IC5	EI-349591	IC LA2730
IC6	EI-351966	IC TC9176P
IC7	EI-351966	IC TC9176P
IC8	EI-367572	IC BA15218
IC9	EI-367572	IC BA15218
IC10	EI-310036	IC TC4066BP
IC11	EI-310036	IC TC4066BP
IC12	EI-395000J	IC M50927HFXAUDI-230
TR1	ET-397160J	TR 2SC3330 R,S,T,U,V
TR2	ET-397160J	TR 2SC3330 R,S,T,U,V
TR4	ET-354415	TR DTA144ES
TR5	ET-354415	TR DTA144ES
TR6	ET-356336	TR DTA114ES
TR7	ET-356336	TR DTA114ES
TR8	ET-356336	TR DTA114ES
TR9	ET-370038	TR 2SC2910 S,T
X1	EI-395002J	OSC CE CST3.27MGW 3.270MHZ
X2	EI-395001J	OSC CE CST2.00MG 2.000MHZ

24. MAIN AMP P.C BOARD (A650 ONLY)

Ref.No.	Part No.	Description
D101	ED-397319J	D ZENER H HZS15-2
D102	ED-394923J	D ZENER H HZS9B2
FR101	ER-397524J	R FUSE V T05 ERD2FC 1/4W 6R8J
FR102	ER-397524J	R FUSE V T05 ERD2FC 1/4W 6R8J
IC101	EI-381838J1	IC LM1875T
TR101	ET-366581	TR 2SD1762 E,F
TR102	ET-366365	TR 2SB1185 E,F

25. VOLUME P.C BOARD (A650 ONLY)

Ref.No.	Part No.	Description
D201	ED-307572	D SILICON H 1SS131
D202	ED-307572	D SILICON H 1SS131
D203	ED-307572	D SILICON H 1SS131
D204	ED-394723J	D LED GL3HY44 YELLOW
D205	ED-394723J	D LED GL3HY44 YELLOW
D206	ED-389638J	D LED GL3HY47 YELLOW
TS201	ES-349474	SW TACT SKHHAM004A [VOLUME UP]
TS202	ES-349474	SW TACT SKHHAM004A [VOLUME DOWN]
TS203	ES-349474	SW TACT SKHHAM004A [DOLBY]
VR201	EV-394998J	VR ROTARY XVR09N8.5F B104 [INPUT BALANCE]

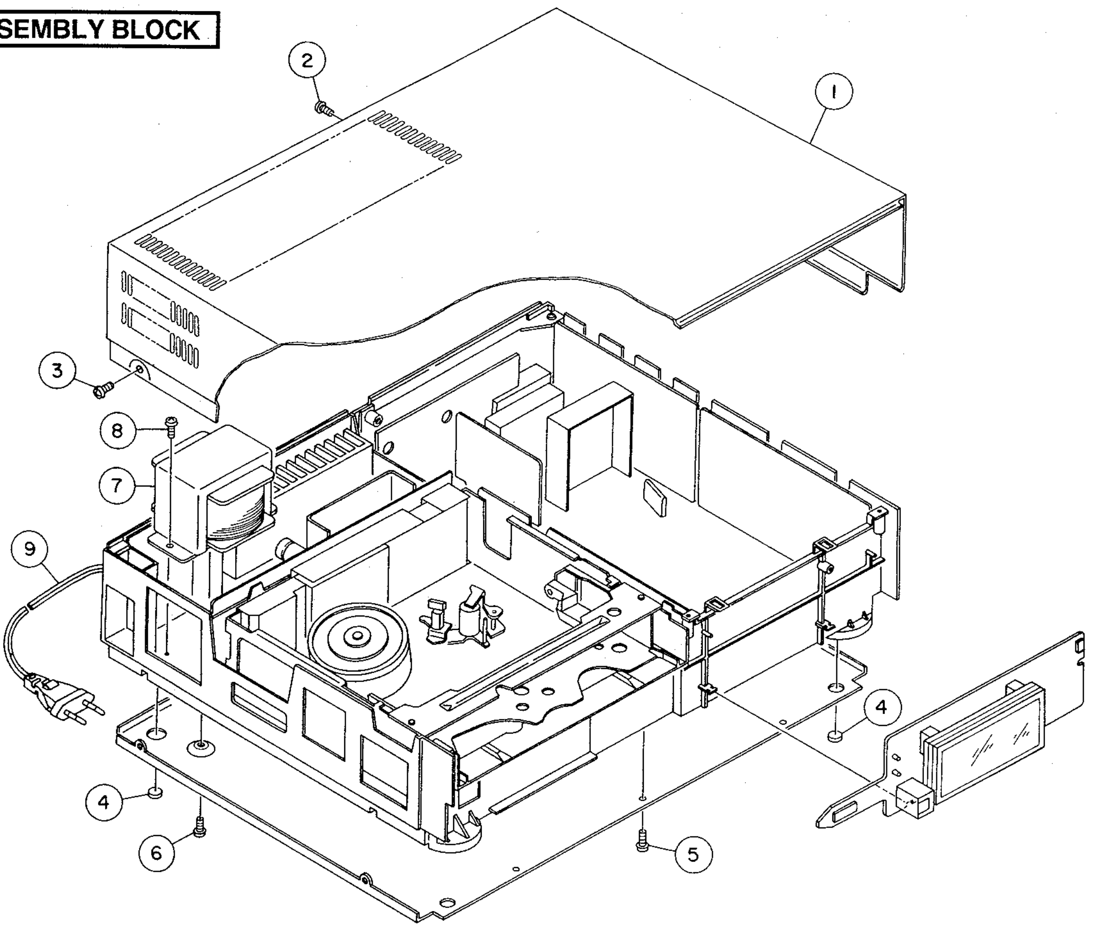
26. FINAL ASSEMBLY BLOCK

Ref.No.	Part No.	Description
1	SP-395481J	COVER UPPER
2	ZS-365702	PLX BID30X10STL BNI
3	ZS-361507	DT BID30X06STL BNI
4	SA-395476J	FOOT FRONT
5	ZS-362378	PLX BID30X10STL CMT
6	ZS-364543	DT BID30X06STL CMT
7	*BT-394952J	TRANS V1123 EA [F600EA/EK]
7A	*BT-394945J	TRANS V1123 EOH [F600EOH/EO/EOG]
7C	*BT-394941J	TRANS POW V1125 EA [A650EA/EK]
7D	*BT-394943J	TRANS POW V1125 EO [A650EOH/EO/EOG9
8	ZS-373962	PLX BID40X10STL CMT
9	*EW-385901M	AC CORD 200 SA-2 LDF B130 A S [EA]
9A	*EW-389300J	AC CORD200 NRASBS LC2 B140 A B [EK]
9B	*EW-385900M	AC CORD 200 SE-1H03VV B130 A E [EOH-E/EOH-V/EO]
9C	*EW-395097J	AC CORD200KP419JLTCE2F B140A V [EOG-V]
10	BD-V1123A310A	PANEL FRONT BLK F600EA-B [F600EA/EOH]
10A	BD-V1123A310B	PANEL FRONT BLK F600EK-B [F600EK/EO]
10B	BD-V1123A310C	PANEL FRONT BLK F600EOG-B [F600EOG-V]
10C	BD-V1125A310A	PANEL FRONT BLK A650EA-B [A650EA/EK/EO/EOH]
10D	BD-V1125A310B	PANEL FRONT BLK A650EOG-VB [A650EOG-V]
11	SE-395383J	MASK CASSETTE(C)E1-C [EA/EK/EO/EOH]
11A	SE-395384J	MASK CASSETTE(C)G1-C [EOG]
12	ZG-395386J	SP MASK(2)
13	SK-395388J	BUTTON OPEN
14	ML-395389J	LEVER LOCK
15	ZG-395390J	SP TORSION LEVER LOCK
16	ZG-386833J1	SP PLATE DOOR(D)
17	SP-395397J	DOOR(2)P1 [F600]
18	SE-395398J	PLATE DOOR(2)E1 [F600][EA/EOH/EOG]
18A	SE-395399J	PLATE DOOR(2)E2 [F600][EK/EO]
19	SE-395606J	PLATE DOOR(3)P1 [F600]
20	SK-395446J	BUTTON SR(E) [A650]
21	ZG-395448J	SP VOL [A650]
22	MZ-381351J	SHAFT VR [A650]
23	SK-395449J	KNOB VOL(2) [A650]
24	SE-386801J	PLATE KNOB [A650]
25	SK-396042J	KNOB BA [A650]
26	SP-395404J	DOOR(1)F600EA [F600EA/EK/EO/EOH]
26A	SP-395409J	DOOR(1)F600EOG-V [F600EOG]
26B	SP-395450J	DOOR(1)A650EA [A650EA/EO/EOH]
26C	SP-395451J	DOOR(1)A650EK [A650EK]
26D	SP-395455J	DOOR(1)A650EOG-V [A650EOG]
27	SK-395412J	BUTTON OP E1 [F600]
27A	SK-395456J	BUTTON OP E2 [A650]
28	SE-395631J	HOLDER VOL
29	ZS-355101	CTS26X06STL BNI
30	SZ-395414J	CUP DOOR
31	ZS-383068J	PT CTS26X10STL BNI
32	SE-395415J	PLATE DOOR(1)F600EA [F600EA]
32A	SE-395416J	PLATE DOOR(1)F600EK [F600EK]
32B	SE-395417J	PLATE DOOR(1)F600EOH [F600EOH]
32C	SE-395419J	PLATE DOOR(1)F600EO [F600EO]
32D	SE-395420J	PLATE DOOR(1)F600EOG-V [F600EOG]
32E	SE-395461J	PLATE DOOR(1)A650EA [A650EA]
32F	SE-395462J	PLATE DOOR(1)A650EK [A650EK]
32G	SE-395463J	PLATE DOOR(1)A650EOH [A650EOH]
32H	SE-395465J	PLATE DOOR(1)A650EO [A650EO]
32I	SE-395466J	PLATE DOOR(1)A650EOG-V [A650EOG]
33	SK-395423J	KNOB VOL(1)
34	MZ-395424J	NAME PLATE AKAI(M)-6S
35	MZ-389926J	DAMPER 3F96-L

27. ACCESSARY

Ref.No.	Part No.	Description
1	EW-348414	CORD PAL
2A	AV-B1014B016B	REMOCON BLK RC-V605A-EB [F600EA]
2B	AV-B1015B010A	REMOCON BLK RC-V602A-EB [F600EK]
2C	AV-B1014B015E	REMOCON BLK RC-V600A-EB [F600EOH/EO]
2D	AV-B1015B010B	REMOCON BLK RC-V604A-GB [F600EOG]
2E	AV-B1014B016C	REMOCON BLK RC-V655A-EB [A650EA]
2F	AV-B1015B010C	REMOCON BLK RC-V652A-EB [A650EK]
2G	AV-B1014B015G	REMOCON BLK RC-V650A-EB [A650EOH/EO]
2H	AV-B1015B010D	REMOCON BLK RC-V654A-GB [A650EOG]

FINAL ASSEMBLY BLOCK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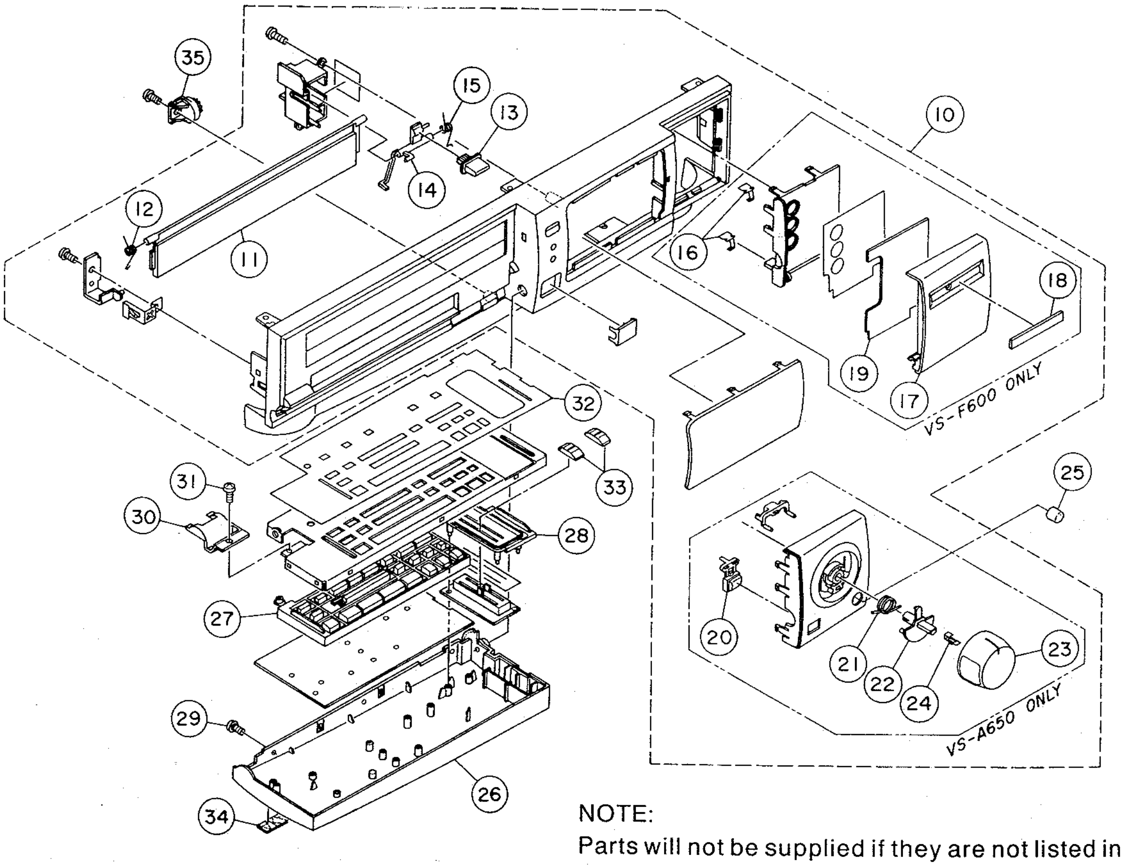
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VS-F600 ONLY
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VS-A650 ONLY
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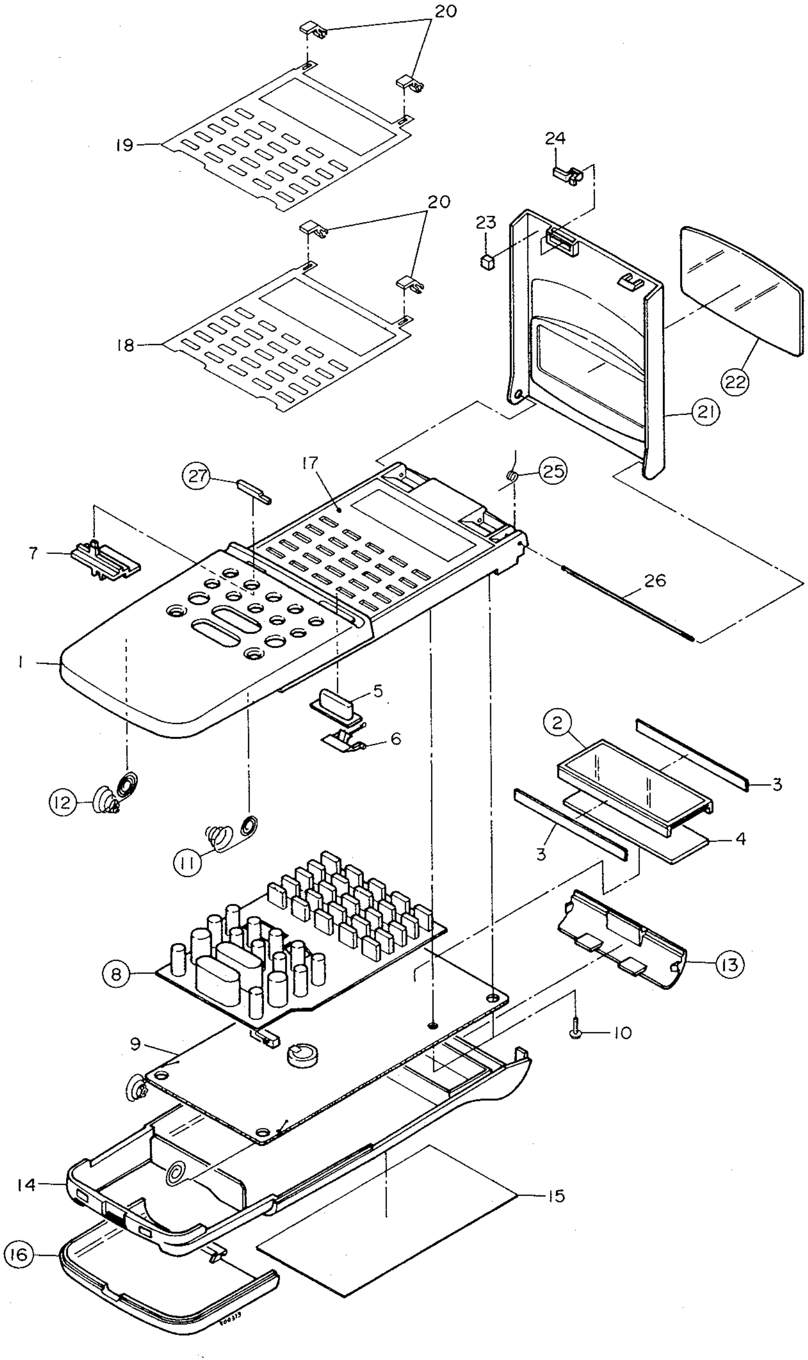
NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

REMOCON RC-V600A-EB/V605A-EB/V650A-EB/V655A



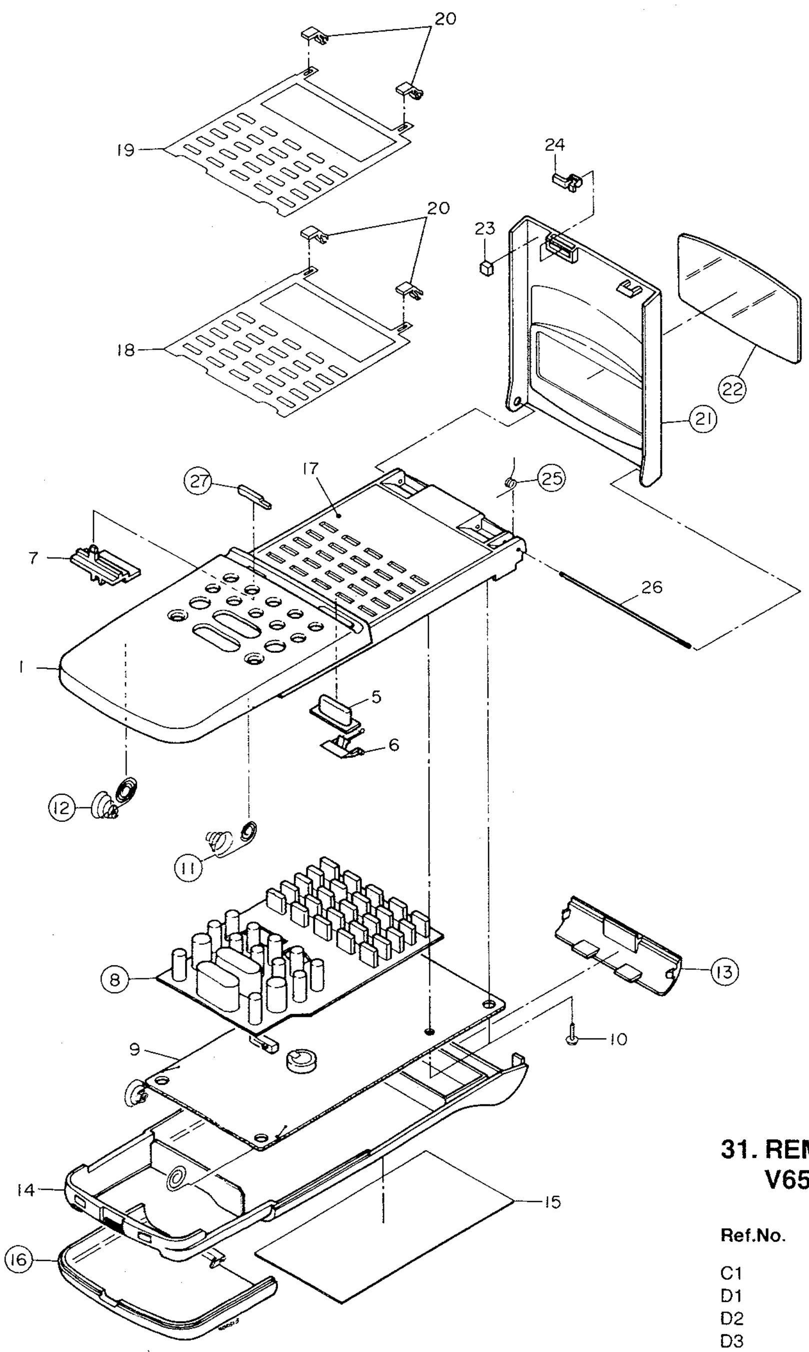
28. REMOCON RC-V600A/V605A/V650A/V655A

Ref.No.	Part No.	Description
2	EM-390786J	IND LCD LF5293G ENGLISH
8	MB-394388J	KEY RUBBER
11	ZG-394389J	TERMINAL BATTERY(Q3)
12	ZG-394381J	TERMINAL BATTERY(P3)
13	SE-394390J	FILTER
16	SC-394394J	COVER BATTERY
21	SP-395158J2	DOOR PANEL(1)-E2
22	SP-394398J2	WINDOW LCD
25	ZG-394400J	SP DOOR
27	SK-395114J1	KNOB SLIDE(1)

29. REMOCON P.C BOARD (RC-V600/605/650/655)

Ref.No.	Part No.	Description
C101	EC-400800J	C DOUBLE LAYER FYL0H473Z 5.5DC
D1	ED-376111	D LED SE303AC INFRARED
D101	ED-376111	D LED SE303AC INFRARED
D102	ED-386031J	D SILICON CHIP MA110-TW
IC1	EI-395096J	IC UPD75306GF HFXREM5-120 [RC-V600/650]
IC1A	EI-400760J	IC UPD75306GF HFXEAR1-129 [RC-V605/V655]
IC2	EI-394613J	IC S-8052ALO-LG-T1
SW1	ES-394485J	SW SLIDE SSSS21 1-01-03N
TR1	ET-393335J	TR CHIP 2SC3938-TW R,S
X1	EI-368825	OSC X'TAL MX-38T 32.768KHZ
X2	EI-394614J	OSC CE CSA2.20MG 2.200MHZ
1	ZG-394404J	TERMINAL BATTERY(Q1)
2	ZG-394405J	TERMINAL BATTERY(Q2)

REMOCON RC-V602A-EB/V604A-GB/V652A-EB/V654A-GB



30. REMOCON RC-V602A/V604A/V652A/V654A

Ref.No.	Part No.	Description
8	MB-394382J	KEY RUBBER
11	ZG-394389J	TERMINAL BATTERY(Q3)
12	ZG-394381J	TERMINAL BATTERY(P3)
13	SE-394390J	FILTER
16	SC-394394J	COVER BATTERY
21	SP-395366J	DOOR PANEL(2)-E3 [RC-V602/V652]
21A	SP-395367J	DOOR PANEL(2)-G4 [RC-V604/V654]
25	ZG-394400J	SP DOOR
27	SK-395114J1	KNOB SLIDE(1)

31. REMOCON P.C BOARD (RC-V602/V604/V652/V654)

Ref.No.	Part No.	Description
C1	EC-368823	C DBL LAYER EECS5R5H 473Z5.5DC
D1	ED-376111	D LED SE303AC INFRARED
D2	ED-376111	D LED SE303AC INFRARED
D3	ED-360409	D PHOTO PN323B
D4	ED-397391J	D LED BR3668S RED
D5	ED-397391J	D LED BR3668S RED
D6	ED-386031J	D SILICON CHIP MA110-TW
D7	ED-386031J	D SILICON CHIP MA110-TW
D8	ED-386031J	D SILICON CHIP MA110-TW
D9	ED-386031J	D SILICON CHIP MA110-TW
D10	ED-386031J	D SILICON CHIP MA110-TW
IC1	EI-400762J	IC UPD17203GC HFXUNR2-553
IC2	EI-400672J	IC S-8052ALB-LE
IC3	EI-394613J	IC S-8052ALO-LG-T1
SW1	ES-394485J	SW SLIDE SSSS21 1-01-03N [RC-V602/V652]
SW1A	ES-400670J	SW SLIDE SSSS21 2-01-04N [RC-V604/V654]
SW2	ES-393431J	SW TACT CHIP SKHUAB T12E
TR1	ET-390826J	TR.CHIP 2SD1619 T,U TC T08
X1	EI-400671J	OSC CE CHIP KBR4.00MCS-TR
1	ZG-394404J	TERMINAL BATTERY(Q1)
2	ZG-394405J	TERMINAL BATTERY(Q2)

MEMO

ABBREVIATIONS (VIDEO)

ABBREVIATION	EXPLANATION
A	Audio or Analogue
AC	Alternating Current
ACC	Automatic Color Control
A/C	Audio and Control
ADJ	ADJust (ment)
AFC	Automatic Frequency Control
AFT	Automatic Fine Tuning
AGC	Automatic Gain Control
AH	Audio Head
AL	ALways (voltage)
ALC	Automatic Level Control
A-SW.P	Audio SWitching Pulse
A-MUTE	Audio MUTE
ANT	ANTenna
APC	Automatic Phase Control
ASSY	ASSemblY
BAL	BALance
B DOWN	Break DOWN
BGP	Burst Gate Pulse
BLK	BLocK or BLacK
BPF	Band Pass Filter
BU	Back Up (voltage)
B/W	Black and White
C	Chroma or Color
CCD	Charge Coupled Device
CCIR	Comité Consultatif International des Radio communications
CH (ch)	CHannel (channel)
CLK	CLocK
CM	Capstan Motor
CN	CoNnector
COMP	COMParator
CSW	Cassette SWitch
CSYNC	Composite SYNC
CTL	ConTrol
CUE	CUE
DAC	Digital to Analog Converter
DC	Direct Current
DEMOD	DEMODulator
DET	DETetct (DETector)
DL	Delay Line
DM	Drum Motor
DOC	Drop Out Compensator
D.P.E	Drum Phase Error
D.PG	Drum Pulse Generator
EE	Electronic to Electronic
EF	Emitter Follower
EMPHA	EMPHAsis
ENV	ENVelope
EP	Extended Play
EP ROM	Erasable Programmable ROM
EQ	EQualizer
FE	Full track Erase
FF	Flip-Flop or Fast Foward
FG	Frequency Generator
Fig	Figure
FLD	FLuorescent Display
FM	Frequency Modulation
Fo	resonance Frequency
FREQ	FREQuency
GND	GrouND
H	Horizontal
HP	Horizontal (sync) pulse
HPF	High Pass Filter
HQ	High Quality System
IC	Integrated Circuit
ID	IDentification
IDL	IDLe (Voltage)
IMS	Interactive Monitor System
INS	INSert
INV	INVerter
L	Left
LED	Light Emitting Diode
LIM	LIMitter
LM	Loading Motor
LM STP	Loading Motor STop
LP	Long Play
LPF	Low Pass Filter
ME-SECAM	Middle East SECAM
MI-COM	MIcro COMputer
MM	Mono-stayble Multi
MOD	MODulator
MRS	Motor ReverSe
NG	Noise Gate
NICAM	Near Instanteneous Compand Audio Multiplex
NON-LIN	NON-LINear
N.T.S.C.	National Television System Committee
OSC	OSCillator
PAL	Phase Alternation by Line
PB	Play Back
PCB (P.C.B)	Printed Circuit Board
P-COM	Phase-COMparator
P DOWN	Power DOWN
PG	Pulse Generator
P.I.P	Picture In Picture
PL, PLG	PLunger (PLunGer)
PRG (PGM)	PRoGram (ProGraM)
PU	Pick UP (head, pulse)
PWR	PoWeR
Q	Quality factor
R	Right
RAM	Random Access Memory
REC	RECord
REF	REFerence
REF-V	REFerence Vertical signal
REG	REGulator
REV (REVW)	REView (REVieW)
REW	REWind
RF	Radio Frequency
ROM	Read Only Memory
R.S SW	Record-Safety SWitch
RST (RES)	ReSet (RESet)
RVS	ReVerSe
S	Sensor, Shield
SAW	Surface Acoustic Wave
SC	SimulCast
S CLK	Serial CLocK
SECAM	SÉquentiel Couleur À Mémoire
S & H	Sample and Hold
SLP	Super Long Play
SP	Standard Play
SPD	SPeeD
SRP	Supply Reel Pulse
SRV	SeRVo
SOW	Sync On Word
STBY	STandBY
S.VHS	Super VHS
SW	SWitch
SW'NG	SWitchiNG
SWP	SWitching Pulse
SYNC	SYNChronize
T-AUDIO	Tuner AUDIO
TPZ (TRAPE)	TraPeZoid (TRAPEzoid)
TRK	TRacKing
TRP	Take up Reel Pulse
T/U	Take Up
TV	TeleVision
UHF	Ultra High Frequency
UNR	UNRegulated (voltage)
V	Vertical or Video
VASS	Video Address Search System
VCO	Voltage Controlled Oscillator
VH	Video Head
VHF	Very High Frequency
VHS	Video Home System
VIF	Video Intermediate Frequency
VISS	Video Index Search System
VJ	Video Judge
VM	Voltage for Memory
VOB	Video On Blank
VOW	Video On Word
VP	Vertical (sync) Pulse
VPS	Video Program System
VPT	Video Programming by video Text
VT	Voltage for Tuning
WHT	WHiTe
Y	Luminance
2H	2 Hour (SP)
4H	4 Hour (LP)
6H	6 Hour (SLP/EP)

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MODEL VS-F600 EA/EK/EO/EOH/EOG-V

MODEL VS-A650 EA/EK/EO/EOH/EOG-V

SCHEMATIC DIAGRAMS AND PC BOARDS

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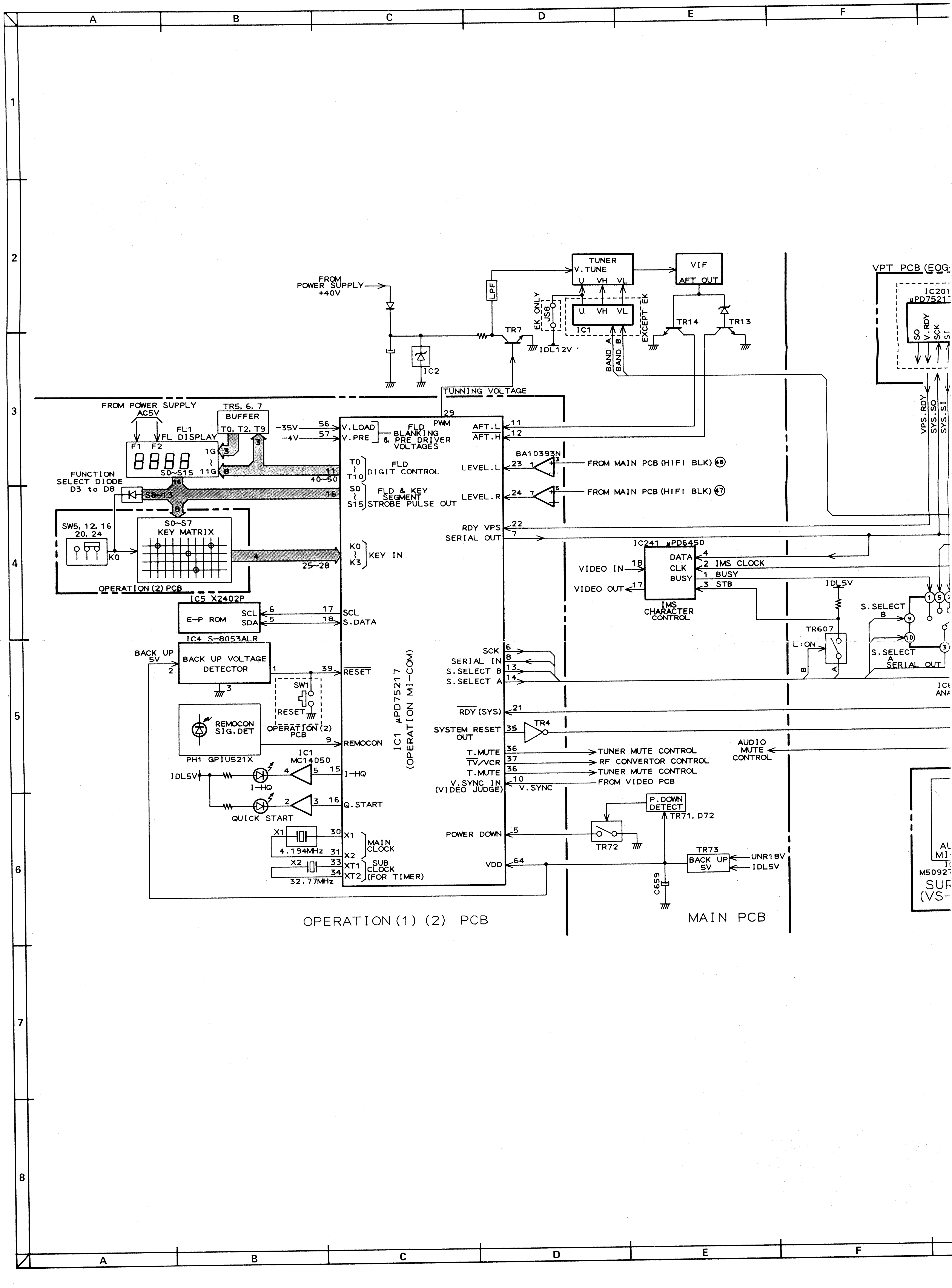
A
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C
D
E
F
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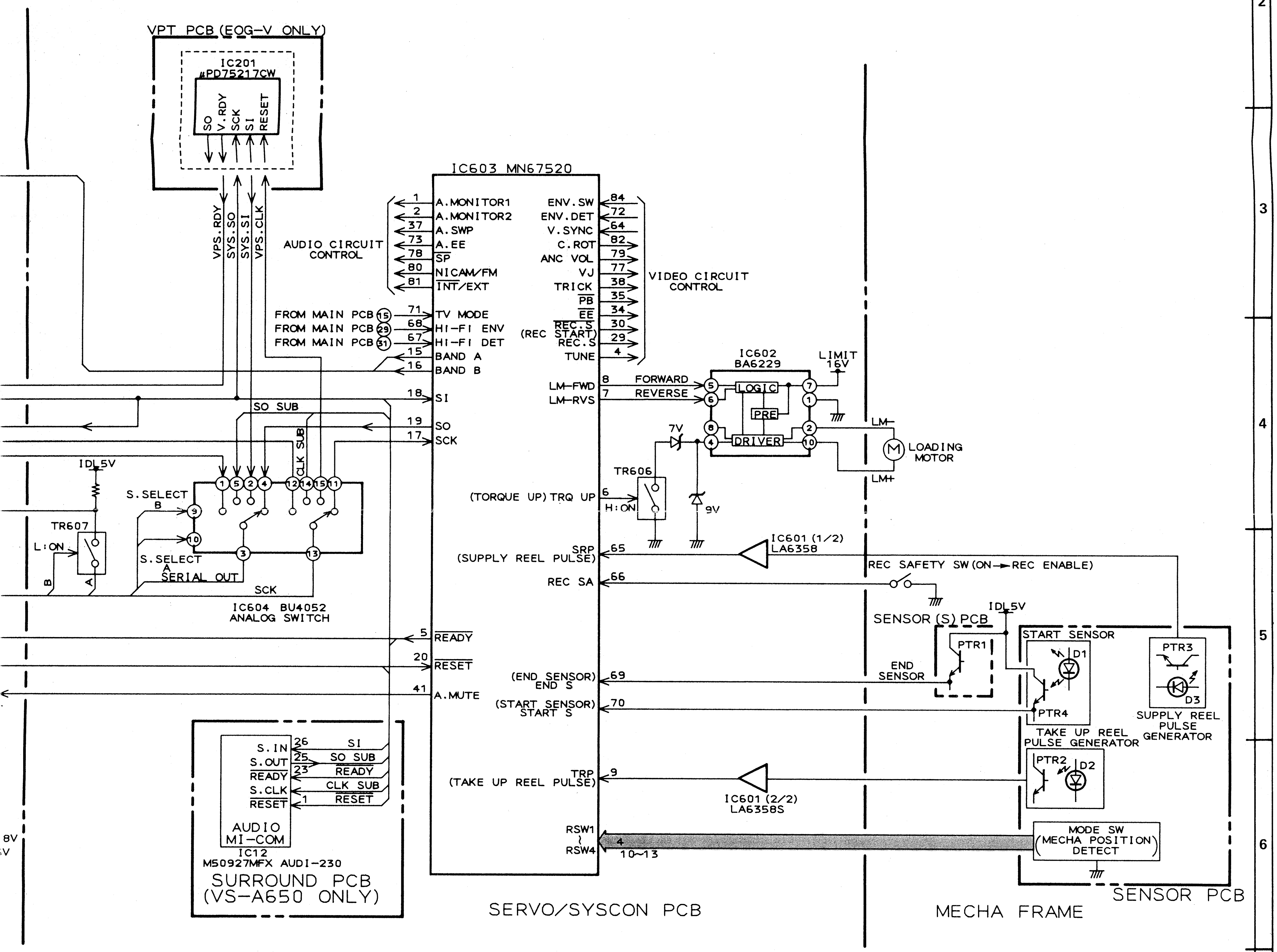
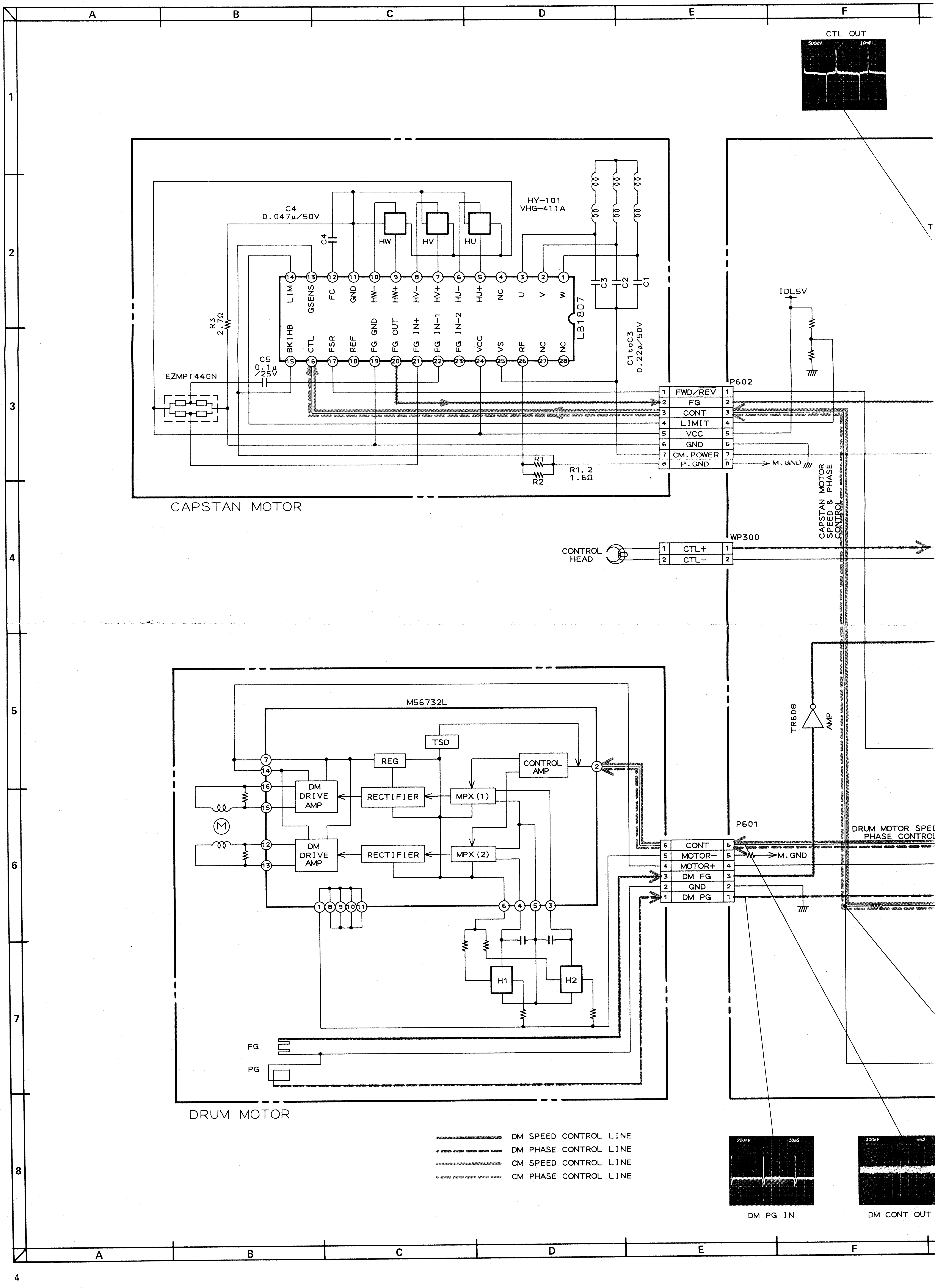
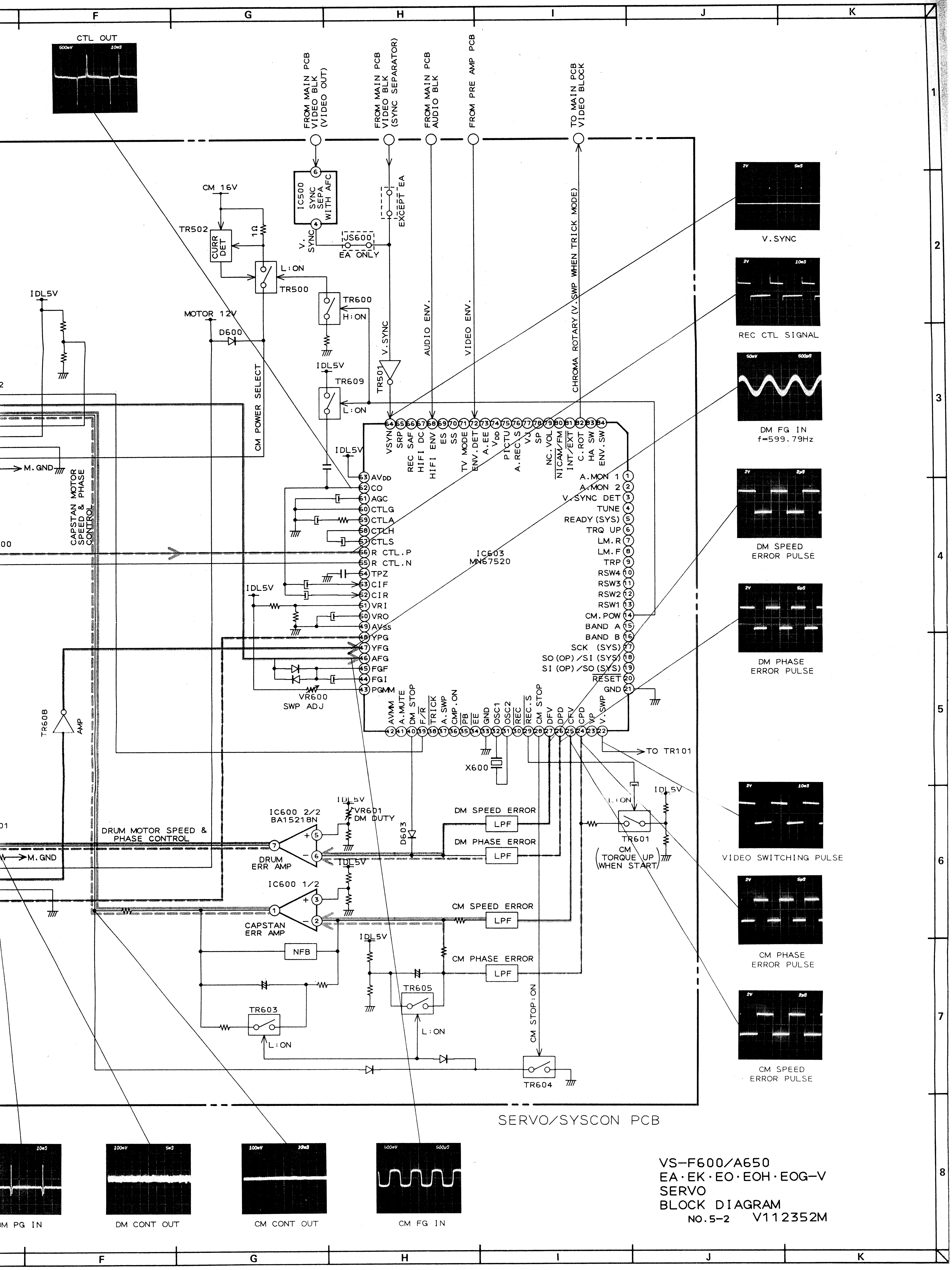
OPERATION (1) (2) PCB
MAIN PCB
VPT PCB (EOG
FROM POWER SUPPLY +40V
LPF
TUNER
V.TUNE
U VH VL
VIF
AFT OUT
EK ONLY
JS8
IC1
EXCEPT EK
TR7
IDL12V
BAND A
BAND B
TR14
TR13
IC2
TUNNING VOLTAGE
FROM POWER SUPPLY AC5V
TR5, 6, 7
BUFFER
T0, T2, T9
FL1
FL DISPLAY
F1 F2
1G ~ 11G
S0~S15
FUNCTION SELECT DIODE D3 to D8
S8~13
SW5, 12, 16 20, 24
K0
S0~S7
KEY MATRIX
OPERATION (2) PCB
IC5 X2402P
E-P ROM
SCL
SDA
IC4 S-8053ALR
BACK UP 5V
BACK UP VOLTAGE DETECTOR
SW1
RESET
OPERATION (2) PCB
REMOCON SIG.DET
PH1 GPIU521X
IC1 MC14050
IDL5V
I-HQ
QUICK START
X1
4.194MHz
X2
32.77MHz
-35V
-4V
V.LOAD
V.PRE
FLD BLANKING & PRE DRIVER VOLTAGES
PWM
T0 ~ T10
FLD DIGIT CONTROL
S0 ~ S15
FLD & KEY SEGMENT STROBE PULSE OUT
K0 ~ K3
KEY IN
SCL
S.DATA
RESET
REMOCON
I-HQ
Q.START
X1
X2
XT1
XT2
MAIN CLOCK
SUB CLOCK (FOR TIMER)
IC1 μPD75217 (OPERATION MI-COM)
AFT.L
AFT.H
LEVEL.L
LEVEL.R
RDY VPS
SERIAL OUT
SCK
SERIAL IN
S.SELECT B
S.SELECT A
RDY (SYS)
SYSTEM RESET OUT
T.MUTE
TV/VCR
T.MUTE
V.SYNC IN (VIDEO JUDGE)
POWER DOWN
VDD
BA10393N
FROM MAIN PCB (HIFI BLK) ㊽
FROM MAIN PCB (HIFI BLK) ㊼
IC241 μPD6450
DATA
CLK
BUSY
IMS CLOCK
BUSY
STB
VIDEO IN
VIDEO OUT
IMS CHARACTER CONTROL
IDL5V
TR607
L:ON
S.SELECT B
S.SELECT A
SERIAL OUT
TR4
AUDIO MUTE CONTROL
TUNER MUTE CONTROL
RF CONVERTOR CONTROL
TUNER MUTE CONTROL
FROM VIDEO PCB
V.SYNC
P.DOWN DETECT
TR71, D72
TR72
TR73
BACK UP 5V
UNR18V
IDL5V
C659
IC201
μPD7521
SO
V.RDY
SCK
SI
VPS.RDY
SYS.SO
SYS.SI
IC6
AN
M50927
SUF
(VS-


VPT PCB (EOG-V ONLY)
IC201
µPD75217CW
SO
V.RDY
SCK
SI
RESET
VPS.RDY
SYS.SO
SYS.SI
VPS.CLK
IC603 MN67520
AUDIO CIRCUIT CONTROL
A.MONITOR1
A.MONITOR2
A.SWP
A.EE
SP
NICAM/FM
INT/EXT
ENV.SW
ENV.DET
V.SYNC
C.ROT
ANC VOL
VJ
TRICK
PB
EE
REC.S
(REC START)
REC.S
TUNE
VIDEO CIRCUIT CONTROL
FROM MAIN PCB ⑮
FROM MAIN PCB ㉙
FROM MAIN PCB ㉛
TV MODE
HI-FI ENV
HI-FI DET
BAND A
BAND B
SI
SO
SCK
SO SUB
CLK SUB
IDL5V
S.SELECT B
S.SELECT A
SERIAL OUT
SCK
TR607
L:ON
B
A
IC604 BU4052
ANALOG SWITCH
LM-FWD
LM-RVS
FORWARD
REVERSE
IC602
BA6229
LOGIC
PRE
DRIVER
LIMIT 16V
LM-
LM+
LOADING MOTOR
M
7V
9V
TR606
H:ON
(TORQUE UP) TRQ UP
SRP
(SUPPLY REEL PULSE)
IC601 (1/2)
LA6358
REC SA
REC SAFETY SW (ON→REC ENABLE)
SENSOR (S) PCB
IDL5V
PTR1
END SENSOR
START SENSOR
D1
PTR4
PTR3
D3
SUPPLY REEL PULSE GENERATOR
TAKE UP REEL PULSE GENERATOR
PTR2
D2
READY
RESET
A.MUTE
(END SENSOR) END S
(START SENSOR) START S
TRP
(TAKE UP REEL PULSE)
IC601 (2/2)
LA6358S
RSW1
RSW4
10~13
MODE SW
(MECHA POSITION DETECT)
S.IN
S.OUT
READY
S.CLK
RESET
SI
SO SUB
READY
CLK SUB
RESET
AUDIO MI-COM
IC12
M50927MFX AUDI-230
SURROUND PCB (VS-A650 ONLY)
SERVO/SYSCON PCB
MECHA FRAME
SENSOR PCB
8V
V
1 2 37 73 78 80 81
84 72 64 82 79 77 38 35 34 30 29 4
71 68 67 15 16 18 19 17
8 7 6 65 66 5 20 41 69 70 9 4
26 25 23 1
F G H I J K
1 2 3 4 5 6 7 8

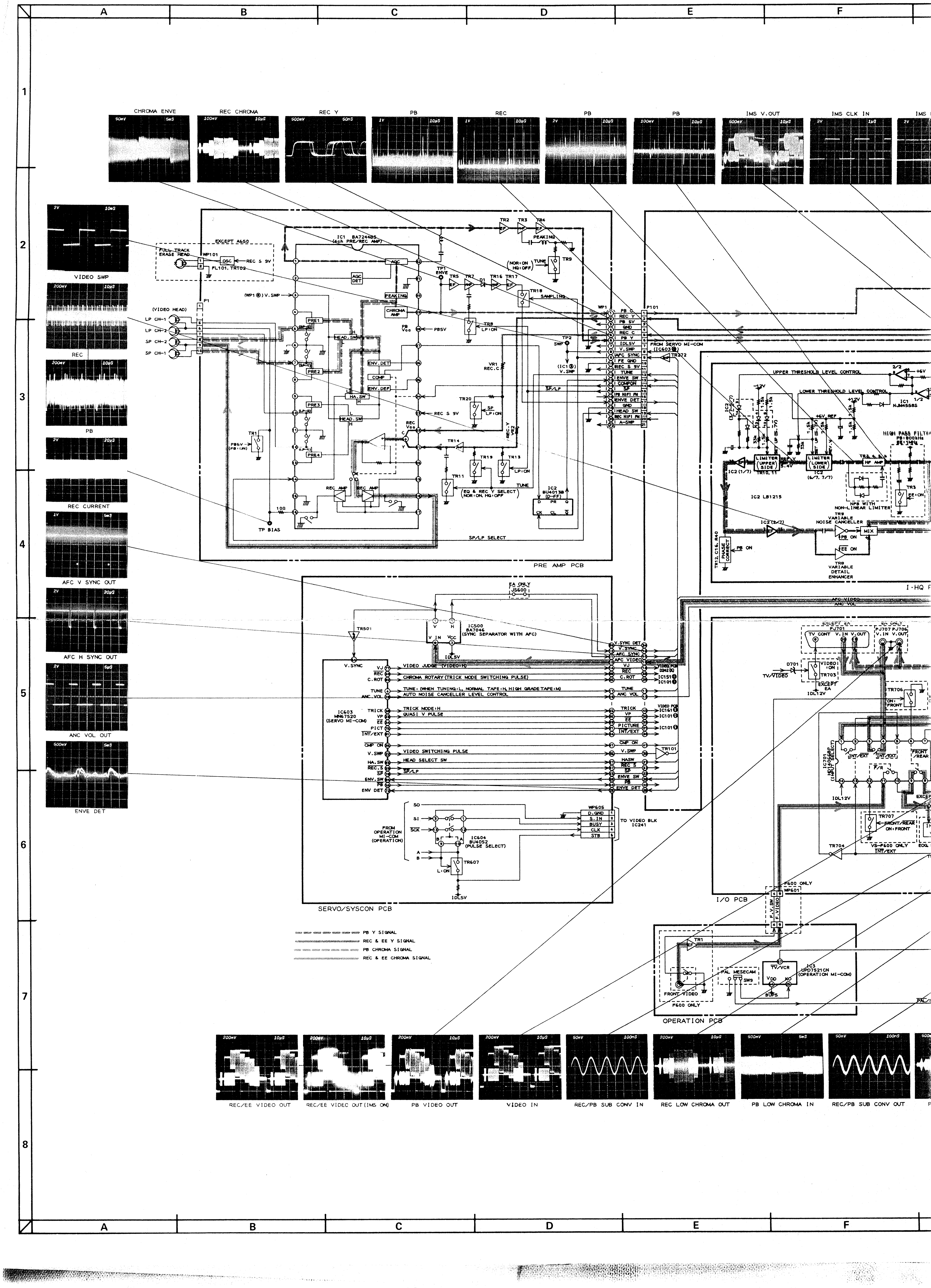
VS-F600/A650
EA·EK·EO·EOH·EOG-V
OPERATION & SYSCON
BLOCK DIAGRAM
NO.5-1 V112351M

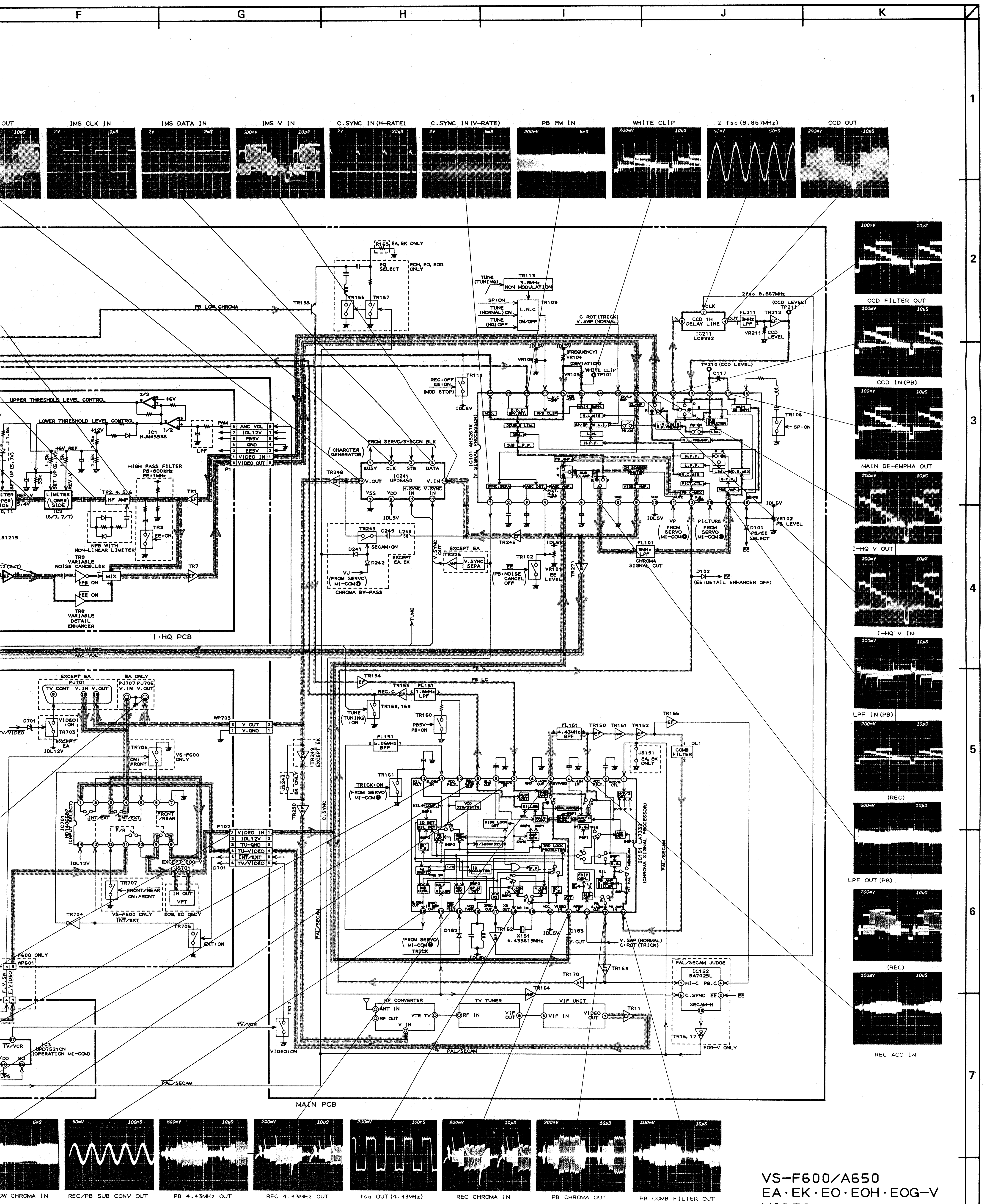

A
B
C
D
E
F
1
2
3
4
5
6
7
8
CTL OUT
CAPSTAN MOTOR
HY-101
VHG-411A
C4
0.047μ/50V
HW
HV
HU
LB1807
LIM
GSENS
FC
GND
HW-
HW+
HV-
HV+
HU-
HU+
NC
U
V
W
BKIHB
CTL
FSR
REF
FG GND
FG OUT
FG IN+
FG IN-1
FG IN-2
VCC
VS
RF
NC
NC
R3
2.7Ω
C5
0.1μ
/25V
EZMP1440N
C1 to C3
0.22μ/50V
C1
C2
C3
R1
R2
R1, 2
1.6Ω
P602
FWD/REV
FG
CONT
LIMIT
VCC
GND
CM.POWER
P.GND
M.GND
IDL5V
CAPSTAN MOTOR
SPEED & PHASE
CONTROL
WP300
CONTROL
HEAD
CTL+
CTL-
DRUM MOTOR
M56732L
TSD
REG
CONTROL
AMP
DM
DRIVE
AMP
RECTIFIER
MPX (1)
MPX (2)
M
H1
H2
FG
PG
TR608
AMP
P601
CONT
MOTOR-
MOTOR+
DM FG
GND
DM PG
M.GND
DRUM MOTOR SPE
PHASE CONTROL
DM SPEED CONTROL LINE
DM PHASE CONTROL LINE
CM SPEED CONTROL LINE
CM PHASE CONTROL LINE
DM PG IN
DM CONT OUT
T



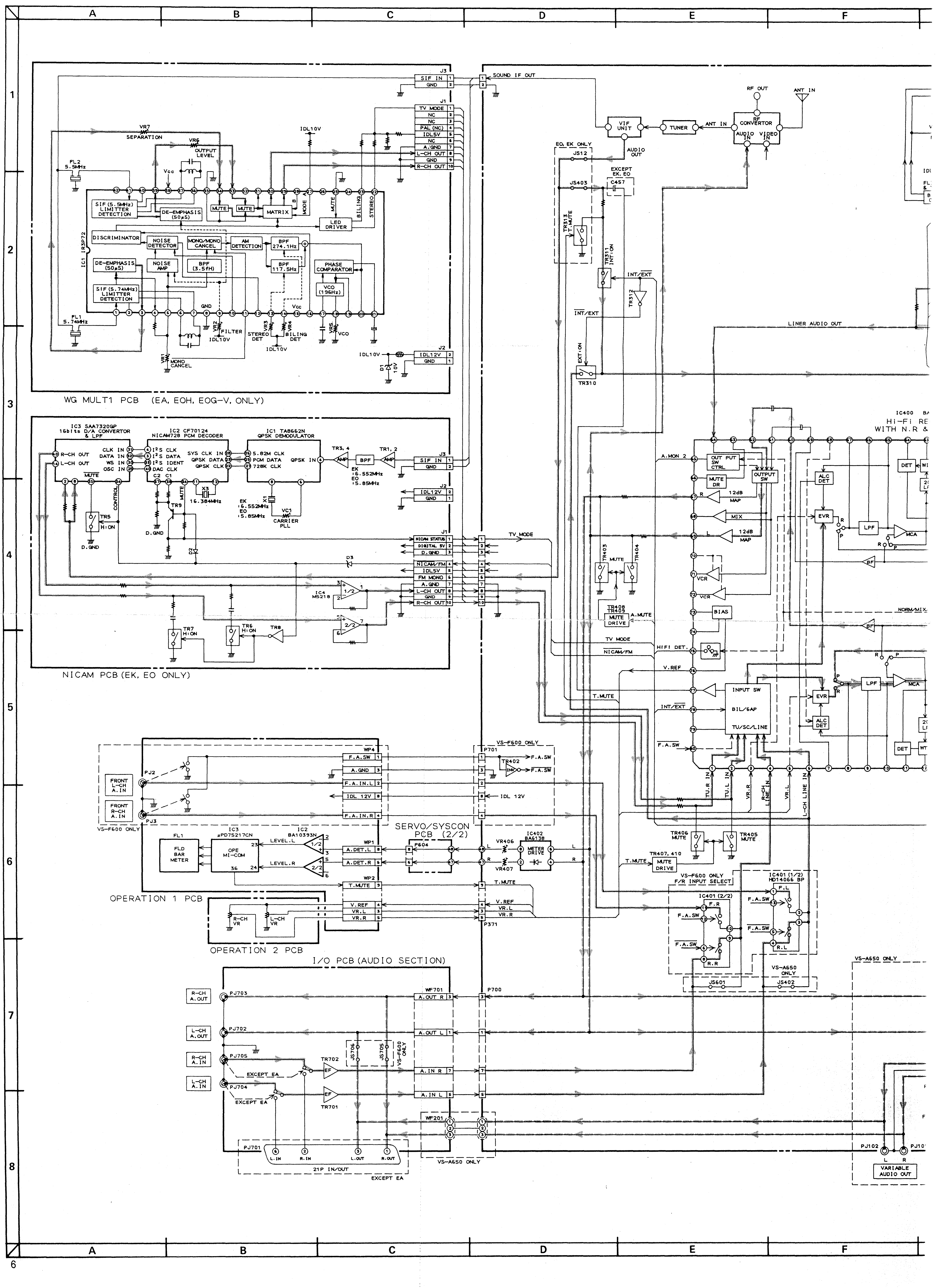
F
G
H
I
J
K
1
2
3
4
5
6
7
8
CTL OUT
FROM MAIN PCB VIDEO BLK (VIDEO OUT)
FROM MAIN PCB VIDEO BLK (SYNC SEPARATOR)
FROM MAIN PCB AUDIO BLK
FROM PRE AMP PCB
TO MAIN PCB VIDEO BLOCK
IC500 SYNC SEPA WITH AFC
V. SYNC
JS600
EA ONLY
EXCEPT EA
CM 16V
TR502
CURR DET
1Ω
L:ON
TR500
TR600
H:ON
IDL5V
MOTOR 12V
D600
CM POWER SELECT
TR609
L:ON
TR501
V.SYNC
AUDIO ENV.
VIDEO ENV.
CHROMA ROTARY (V.SWP WHEN TRICK MODE)
M.GND
CAPSTAN MOTOR SPEED & PHASE CONTROL
IC603
MN67520
VSYNC
SRP
REC SAF
HIFI DC
HIFI ENV
ES
SS
TV MODE
ENV.DET
A.EE
VDD
PICTU
A.REC.S
VJ
SP
NC.VOL
NICAM/FM
INT/EXT
C.ROT
HA SW
ENV.SW
AVDD
CO
AGC
CTLG
CTLA
CTLH
CTLS
R CTL.P
R CTL.N
TPZ
CIF
CIR
VRI
VRO
AVSS
YPG
YFG
AFG
FGF
FGI
PGMM
A.MON 1
A.MON 2
V.SYNC DET
TUNE
READY (SYS)
TRQ UP
LM.R
LM.F
TRP
RSW4
RSW3
RSW2
RSW1
CM.POW
BAND A
BAND B
SCK (SYS)
SO (OP)/SI (SYS)
SI (OP)/SO (SYS)
RESET
GND
AVMM
A.MUTE
DM STOP
F/R
TRICK
A.SWP
CMP.ON
PB
EE
GND
OSC1
OSC2
REC
REC.S
CM STOP
DFV
DPD
CFV
CPD
VP
V.SWP
TO TR101
X600
VR600
SWP ADJ
TR608
AMP
IC600 2/2
BA15218N
VR601
DM DUTY
D603
DRUM MOTOR SPEED & PHASE CONTROL
DRUM ERR AMP
DM SPEED ERROR
DM PHASE ERROR
LPF
TR601
CM TORQUE UP WHEN START
IC600 1/2
CAPSTAN ERR AMP
CM SPEED ERROR
CM PHASE ERROR
NFB
TR603
TR605
L:ON
CM STOP:ON
TR604
V.SYNC
REC CTL SIGNAL
DM FG IN f=599.79Hz
DM SPEED ERROR PULSE
DM PHASE ERROR PULSE
VIDEO SWITCHING PULSE
CM PHASE ERROR PULSE
CM SPEED ERROR PULSE
DM PG IN
DM CONT OUT
CM CONT OUT
CM FG IN
SERVO/SYSCON PCB

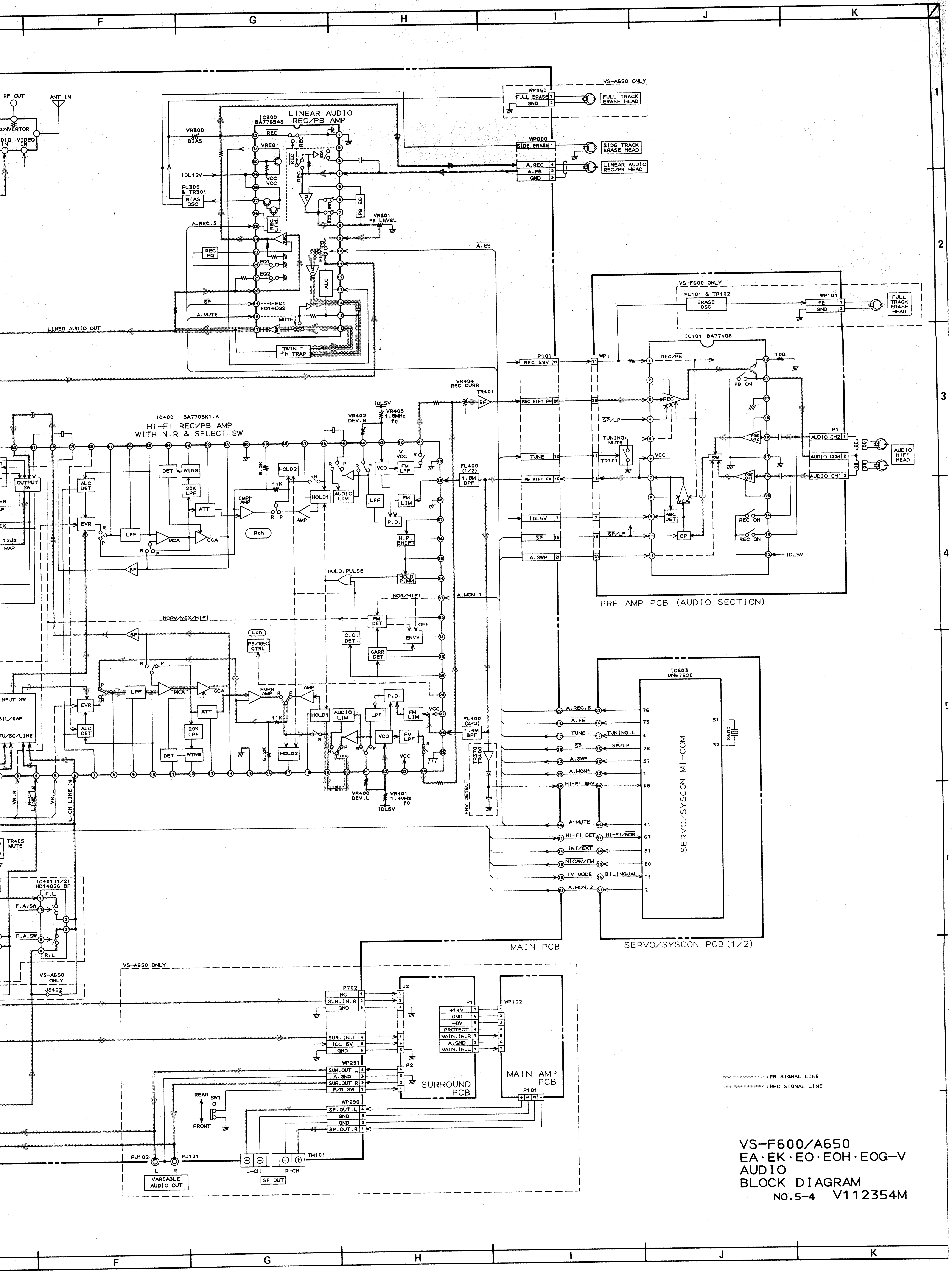
VS-F600/A650
EA·EK·EO·EOH·EOG-V
SERVO
BLOCK DIAGRAM
NO.5-2 V112352M


A
B
C
D
E
F
1
2
3
4
5
6
7
8
CHROMA ENVE
50mV 5mS
REC CHROMA
100mV 10μS
REC Y
500mV 50nS
PB
1V 10μS
REC
1V 10μS
PB
2V 10μS
PB
100mV 10μS
IMS V.OUT
500mV 10μS
IMS CLK IN
2V 1μS
VIDEO SWP
2V 10mS
REC
200mV 10μS
PB
200mV 10μS
2V 20μS
REC CURRENT
1V 5mS
AFC V SYNC OUT
2V 20μS
AFC H SYNC OUT
2V 5μS
ANC VOL OUT
500mV 5mS
ENVE DET
EXCEPT A650
FULL TRACK ERASE HEAD
WP101
OSC
REC S 9V
FL101, TR102
IC1 BA7244BS (4ch PRE/REC AMP)
AGC
AGC DET
PEAKING
CHROMA AMP
TR2
TR3
TR4
EF
PEAKING
(NOR:ON HQ:OFF)
TUNE
TR9
TP1 ENVE
TR5
TR7
D1
TR16
TR17
TR18
SAMPLING
(WP1 ⑧) V.SWP
P1
(VIDEO HEAD)
LP CH-1
LP CH-2
SP CH-2
SP CH-1
PRE1
PRE2
PRE3
PRE4
HEAD.SW
HA.SW
ENV.DET
COMP
ENV.DEF
PB Vcc
PB5V
TR8
LP:ON
TP2
SWP
(IC1 ⑤) V.SWP
VR1 REC.C
TR20
SP LP:ON
REC S 9V
REC Vcc
REC.Y VR2
TR14
TR19
TR13
LP:ON
TR11
TUNE
(EQ & REC Y SELECT NOR:ON, HQ:OFF)
IC2 BU4013B (D-FF)
D PR Q
CK CL Q
TR1
PB5V (PB:ON)
REC AMP
REC AMP
10Ω
TP BIAS
SP/LP SELECT
PRE AMP PCB
WP1
P101
PB C
REC Y
PB 5V
GND
REC C
PB Y
IDL5V
V.SWP
AFC SYNC
FE GND
REC S 9V
TUNE
ENVE SW
COMPON
SP
PB HIFI FM
ENVE DET
GND
HEAD SW
REC HIFI FM
A-SWP
FROM SERVO MI-COM (IC603 ㉒)
TR272
EA ONLY
JS600
TR501
IC500 BA7046 (SYNC SEPARATOR WITH AFC)
V H
V IN Vcc
IDL5V
V.SYNC
IC603 MN67520 (SERVO MI-COM)
VJ
REC
C.ROT
TUNE
ANC.VOL
TRICK
VP
EE
PICT
INT/EXT
CMP ON
V.SWP
HA.SW
REC.S
SP
ENV.SW
PB
ENV DET
VIDEO JUDGE (VIDEO:H)
CHROMA ROTARY (TRICK MODE SWITCHING PULSE)
TUNE: (WHEN TUNING:L, NORMAL TAPE:H, HIGH GRADE TAPE:M)
AUTO NOISE CANCELLER LEVEL CONTROL
TRICK MODE:H
QUASI V PULSE
VIDEO SWITCHING PULSE
HEAD SELECT SW
SP/LP
V.SYNC DET
V.SYNC
AFC SYNC
AFC VIDEO
VJ
REC
C.ROT
TUNE
ANC VOL
TRICK
VP
EE
PICTURE
INT/EXT
CMP ON
V.SWP
HASW
REC S
SP
ENVE SW
PB
ENVE DET
VIDEO PCB D242 ⒳
IC151 ②
IC101 ③
VIDEO PCB IC161 ⑪
IC101 ⑪
IC101 ⑬
TR101
SO
SI
SCK
FROM OPERATION MI-COM (OPERATION)
IC604 BU4052 (PULSE SELECT)
A
B
TR607
L:ON
IDL5V
WP605
D.GND
S.IN
BUSY
CLK
STB
TO VIDEO BLK IC241
SERVO/SYSCON PCB
PB Y SIGNAL
REC & EE Y SIGNAL
PB CHROMA SIGNAL
REC & EE CHROMA SIGNAL
UPPER THRESHOLD LEVEL CONTROL
LOWER THRESHOLD LEVEL CONTROL
2/2
1/2
+6V
+12V
-12V
IC1 NJM4558S
IC2 (3/7-5/7)
+6V REF
1.5k
33k
UP (5.7V)
LP (5.7V)
REF.V
5.4V
HIGH PASS FILTER
PB:800kHz
EE:1MHz
LIMITER (UPPER SIDE)
TR10, 11
LIMITER (LOWER SIDE)
IC2 (6/7, 7/7)
IC2 (1/7)
HF AMP
TR2, 4, 5, 6
IC2 LB1215
NFB WITH NON-LINEAR LIMITER
TR3
EE:ON
IC2 (2/7)
TR9 VARIABLE NOISE CANCELLER
PB ON
MIX
EE ON
TR8 VARIABLE DETAIL ENHANCER
TR12, C16, R40
PHASE CORRECT
PB ON
I·HQ
AFC VIDEO
ANC VOL
EXCEPT EA
PJ701
TV CONT V.IN V.OUT
EA ONLY
PJ707 PJ706
V.IN V.OUT
D701
TV/VIDEO
VIDEO:ON
TR703
EXCEPT EA
IDL12V
TR706
ON:FRONT
IC701 HD14066BP (INPUT SELECT)
INT/EXT
INT/EXT
FRONT/REAR
F/R
IDL12V
EXCEPT
TR707
FRONT/REAR ON:FRONT
VS-F600 ONLY
INT/EXT
EOG
TR704
F600 ONLY
WP601
F.V.SW
F.VIDEO
I/O PCB
TR1
EF
FRONT VIDEO
F600 ONLY
PAL MESECAM
SW9
TV/VCR
IC3 UPD7521CN (OPERATION MI-COM)
VDD KO
BUP5
PAL/S
OPERATION PCB
REC/EE VIDEO OUT
200mV 10μS
REC/EE VIDEO OUT (IMS ON)
200mV 10μS
PB VIDEO OUT
200mV 10μS
VIDEO IN
200mV 10μS
REC/PB SUB CONV IN
50mV 100nS
REC LOW CHROMA OUT
200mV 10μS
PB LOW CHROMA IN
500mV 5mS
REC/PB SUB CONV OUT
50mV 100nS


F
G
H
I
J
K
1
2
3
4
5
6
7
8
IMS CLK IN
IMS DATA IN
IMS V IN
C.SYNC IN (H-RATE)
C.SYNC IN (V-RATE)
PB FM IN
WHITE CLIP
2 fsc (8.867MHz)
CCD OUT
CCD FILTER OUT
CCD IN (PB)
MAIN DE-EMPHA OUT
I-HQ V OUT
I-HQ V IN
LPF IN (PB)
(REC)
LPF OUT (PB)
(REC)
REC ACC IN
CHROMA IN
REC/PB SUB CONV OUT
PB 4.43MHz OUT
REC 4.43MHz OUT
fsc OUT (4.43MHz)
REC CHROMA IN
PB CHROMA OUT
PB COMB FILTER OUT
R163 EA, EK ONLY
EQ SELECT
EOH, EO, EOG ONLY
TR155
TR156
TR157
PB LOW CHROMA
TUNE (TUNING)
TR113 3.8MHz NON MODULATION
SP:ON
TUNE (NORMAL) ON
TUNE (HQ) OFF
L.N.C ON/OFF
TR109
C ROT (TRICK)
V.SWP (NORMAL)
CCD 1H DELAY LINE
IC211 LC8992
FL211 3MHz LPF
TR212
TP211 (CCD LEVEL)
VR211 CCD LEVEL
2fsc 8.867MHz
TP210 (CCD LEVEL)
C117
VR103
VR104 (FREQUENCY)
(DEVIATION)
VR105
WHITE CLIP TP101
REC:OFF EE:ON (MOD STOP)
TR111
IDL5V
IC101 AN3357K (Y SIGNAL PROCESSOR)
TR106 SP:ON
UPPER THRESHOLD LEVEL CONTROL
LOWER THRESHOLD LEVEL CONTROL
IC1 NJM4558S
HIGH PASS FILTER PB:800kHz EE:1MHz
TR2, 4, 5, 6 HF AMP
TR1
LIMITER (LOWER SIDE) IC2 (6/7, 7/7)
NFB WITH NON-LINEAR LIMITER
TR3 EE:ON
TR9 VARIABLE NOISE CANCELLER
MIX
TR7
PB ON
EE ON
TR8 VARIABLE DETAIL ENHANCER
I-HQ PCB
ANC VOL
IDL12V
PB5V
GND
EE5V
VIDEO IN
VIDEO OUT
P1
FROM SERVO/SYSCON BLK
(CHARCTER GENERATOR)
IC241 UPD6450
BUSY CLK STB DATA
V.OUT V.IN
H.SYNC IN V.SYNC IN
TR248
TR243 SECAM:ON
C249
L243
D241
D242
EXCEPT EA, EK
VJ (FROM SERVO) MI-COM
CHROMA BY-PASS
V.SYNC OUT
EXCEPT EA
TR225
V.SYNC SEPA
TR245
TR102
EE (PB:NOISE CANCEL) OFF
VR101 EE LEVEL
TR271
FL101 3MHz LPF
CHROMA SIGNAL CUT
VP (FROM SERVO MI-COM)
PICTURE (FROM SERVO MI-COM)
D101 PB/EE SELECT
VR102 PB LEVEL
D102
(EE:DETAIL ENHANCER OFF)
TUNE
PB C
PB LC
EXCEPT EA PJ701
EA ONLY PJ707 PJ706
TV CONT V.IN V.OUT
D701
TR703
EXCEPT EA
IDL12V
TR706 ON: FRONT
VS-F600 ONLY
WP703 V OUT V.GND
IC701 TC4066BP (INPUT SELECT)
INT/EXT
FRONT/REAR
F/R
EXCEPT EOG-V JS701
P102
VIDEO IN
IDL12V
TU-GND
TU-VIDEO
INT/EXT
TV/VIDEO
TR707 FRONT/REAR ON: FRONT
VS-F600 ONLY INT/EXT
IN OUT VPT
EOG, EO ONLY
TR704
TR705 EXT:ON
F600 ONLY
WP601
F.V.SW
F.VIDEO
TV/VCR
IC3 UPD7521CN (OPERATION MI-COM)
TR154
TR153 REC.C
FL151 1.6MHz LPF
TR168, 169
TUNE (TUNING) :ON
TR160
PB5V PB:ON
FL151 5.06MHz BPF
TR161
TRICK:ON (FROM SERVO MI-COM)
JS243 EK ONLY
TR249 EXCEPT EK
TR250
C.SYNC
FL151 4.43MHz BPF
TR150
TR151
TR152
TR165
DL1 COMB FILTER
JS151 EA, EK ONLY
IC151 LA7335 (CHROMA SIGNAL PROCESSOR)
PAL/SECAM
(FROM SERVO) MI-COM TRICK
D152
TR162
X151 4.433619MHz
C183
Y.CUT
V.SWP (NORMAL) C:ROT (TRICK)
PAL/SECAM JUDGE
IC152 BA7025L
HI-C PB.C
C.SYNC EE
SECAM-H
TR16, 17
EOG-V ONLY
TR163
TR170
TR164
RF CONVERTER
ANT IN
RF OUT
VTR TV
V IN
TV TUNER
RF IN
VIF OUT
VIF UNIT
VIF IN
VIDEO OUT
TR11
TR17
TV/VCR
VIDEO:ON
PAL/SECAM
MAIN PCB

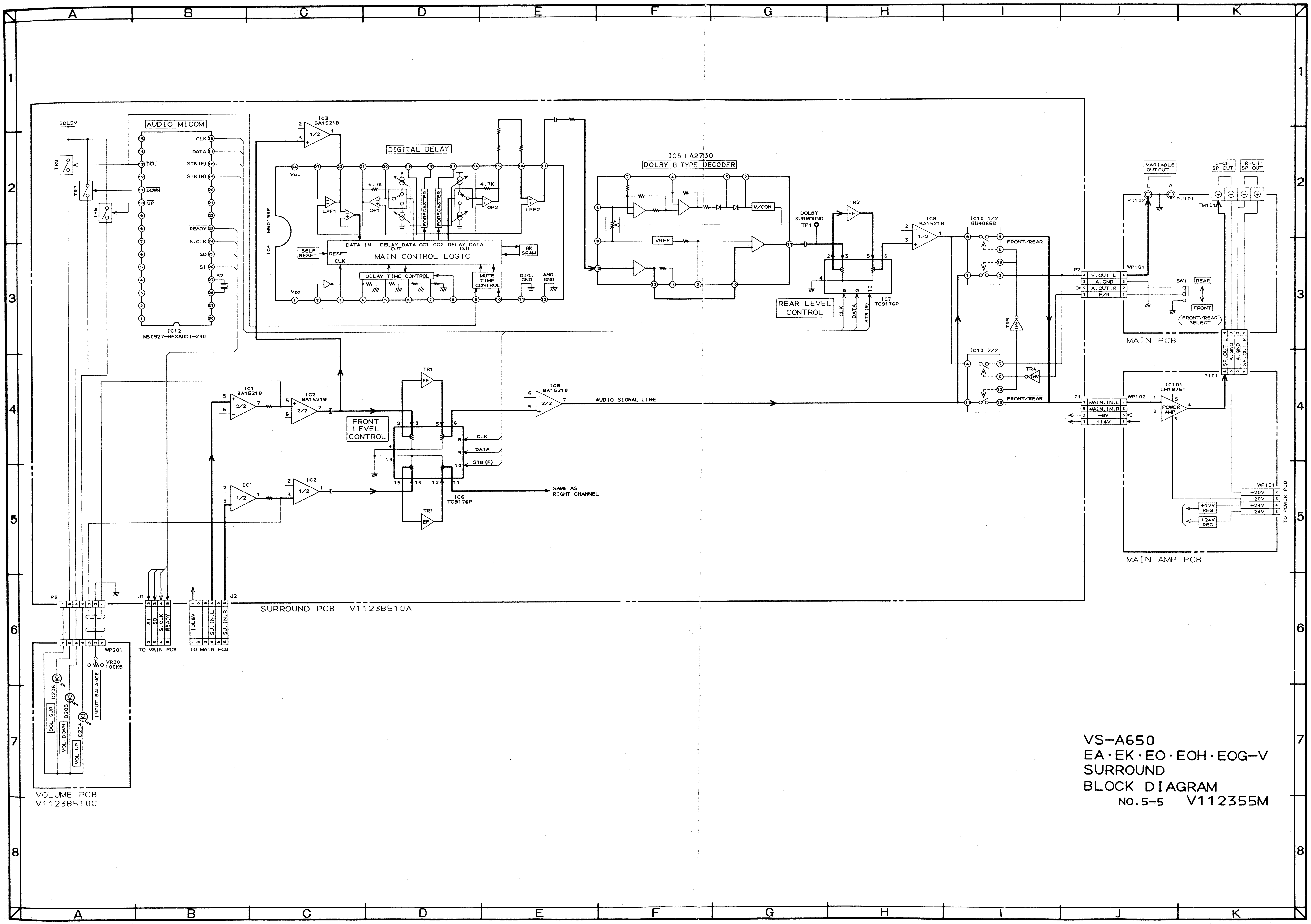
VS-F600/A650
EA·EK·EO·EOH·EOG-V
VIDEO
BLOCK DIAGRAM
NO.5-3 V112353M


WG MULT1 PCB (EA, EOH, EOG-V, ONLY)
IC1 IR3P72
SIF (5.5MHz) LIMITTER DETECTION
DE-EMPHASIS (50μS)
MUTE
MATRIX
LED DRIVER
DISCRIMINATOR
NOISE DETECTOR
MONO/MONO CANCEL
AM DETECTION
BPF 274.1Hz
BPF 117.5Hz
PHASE COMPARATOR
VCO (196Hz)
NOISE AMP
BPF (3.5fH)
SIF (5.74MHz) LIMITTER DETECTION
FL1 5.74MHz
FL2 5.5MHz
VR7 SEPARATION
VR6 OUTPUT LEVEL
VR1 MONO CANCEL
VR2 FILTER
VR3 STEREO DET
VR4 BILING DET
VR5 VCO
IDL10V
NICAM PCB (EK, EO ONLY)
IC3 SAA7320GP 16bits D/A CONVERTOR & LPF
IC2 CF70124 NICAM728 PCM DECODER
IC1 TA8662N QPSK DEMODULATOR
IC4 M5218
TR5 H:ON
TR6 H:ON
TR7 H:ON
TR8
TR9
X3 16.384MHz
X1 EK 6.552MHz EO 5.85MHz
VC1 CARRIER PLL
TR3, 4
TR1, 2
BPF
SIF IN
GND
IDL12V
NICAM STATUS
DIGITAL 5V
D.GND
NICAM/FM
IDL5V
FM MONO
A.GND
L-CH OUT
R-CH OUT
TV MODE
NC
PAL (NC)
J1
J2
J3
SOUND IF OUT
VIF UNIT
AUDIO OUT
TUNER
ANT IN
RF CONVERTOR
AUDIO IN
VIDEO IN
RF OUT
EO, EK ONLY
JS12
JS403
EXCEPT EK, EO
C457
TR313 T.MUTE
TR311 INT:ON
TR312
INT/EXT
EXT:ON
TR310
LINER AUDIO OUT
IC400
Hi-Fi RE
WITH N.R &
A.MON 2
OUT PUT SW CTRL
MUTE DR
OUTPUT SW
12dB MAP
MIX
VCR
BIAS
HIFI DET.
V.REF
T.MUTE
INPUT SW
BIL/SAP
TU/SC/LINE
F.A.SW
TR403
TR404
MUTE
TR408 TR409 MUTE DRIVE
A.MUTE
ALC DET
EVR
LPF
MCA
DET
BF
NORM/MIX
TU.R IN
TU.L IN
VR.R
R-CH LINE IN
VR.L
L-CH LINE IN
TR406 MUTE
TR405 MUTE
TR407, 410 MUTE DRIVE
VS-F600 ONLY F/R INPUT SELECT
IC401 (1/2) HD14066 BP
IC401 (2/2)
F.L
F.R
R.R
R.L
VS-A650 ONLY
JS601
JS402
SERVO/SYSCON PCB (2/2)
P604
VR406
VR407
IC402 BA6138 METER DRIVE
P701
TR402
IDL 12V
WP4
FRONT L-CH A.IN
FRONT R-CH A.IN
PJ2
PJ3
F.A.IN.L
F.A.IN.R
OPERATION 1 PCB
FL1 FLD BAR METER
IC3 μPD75217CN OPE MI-COM
IC2 BA10393N
LEVEL.L
LEVEL.R
A.DET.L
A.DET.R
WP1
WP2
OPERATION 2 PCB
R-CH VR
L-CH VR
VR.R
VR.L
P371
I/O PCB (AUDIO SECTION)
R-CH A.OUT
L-CH A.OUT
R-CH A.IN
L-CH A.IN
PJ703
PJ702
PJ705
PJ704
WF701
A.OUT R
A.OUT L
A.IN R
A.IN L
P700
JS706
JS705
VS-F600 ONLY
TR702
TR701
EF
EXCEPT EA
WF201
PJ701
L.IN
R.IN
L.OUT
R.OUT
21P IN/OUT
PJ102
PJ101
VARIABLE AUDIO OUT
A
B
C
D
E
F
1
2
3
4
5
6
7
8

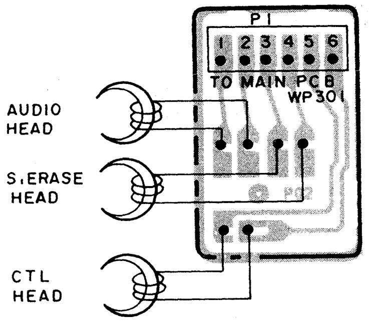

F
G
H
I
J
K
1
2
3
4
5
RF OUT
ANT IN
RF CONVERTOR
AUDIO IN
VIDEO IN
LINEAR AUDIO REC/PB AMP
IC300 BA7765AS
VR300 BIAS
IDL12V
FL300 & TR301
BIAS OSC
A.REC.S
REC EQ
EQ1
EQ2
SP
A.MUTE
LINER AUDIO OUT
TWIN T fH TRAP
ALC
PB EQ
VR301 PB LEVEL
A.EE
VS-A650 ONLY
WP350
FULL ERASE
GND
FULL TRACK ERASE HEAD
WP800
SIDE ERASE
SIDE TRACK ERASE HEAD
A.REC
A.PB
LINEAR AUDIO REC/PB HEAD
VS-F600 ONLY
FL101 & TR102
ERASE OSC
WP101
FE
FULL TRACK ERASE HEAD
IC101 BA7740S
P101
REC S9V
REC HIFI FM
TUNE
PB HIFI FM
IDL5V
SP
A.SWP
WP1
REC/PB
SP/LP
TUNING MUTE
TR101
AGC DET
EP
VCA
PB ON
REC ON
IDL5V
P1
AUDIO CH2
AUDIO COM
AUDIO CH1
AUDIO HIFI HEAD
PRE AMP PCB (AUDIO SECTION)
IC400 BA7703K1.A
Hi-Fi REC/PB AMP WITH N.R & SELECT SW
VR404 REC CURR
TR401
VR402 DEV.R
VR405 1.8MHz f0
IDL5V
FL400 (1/2) 1.8M BPF
FL400 (2/2) 1.4M BPF
OUTPUT SW
ALC DET
EVR
LPF
MCA
CCA
DET
WTNG
20K LPF
ATT
EMPH AMP
HOLD1
HOLD2
AUDIO LIM
VCO
FM LPF
FM LIM
P.D.
H.P. SHIFT
HOLD PULSE
HOLD P.MM
NOR/HIFI
A.MON 1
FM DET
ENVE
OFF
CARR DET
O.O. DET.
PB/REC CTRL
Lch
Rch
NORM/MIX/HIFI
BF
INPUT SW
VR400 DEV.L
VR401 1.4MHz f0
TR370 TR400
ENV. DETECT
VR.R
R-CH LINE IN
VR.L
L-CH LINE IN
TR405 MUTE
IC401 (1/2) HD14066 BP
F.A.SW
F.L
R.L
VS-A650 ONLY
JS402
IC603 MN67520
A.REC.S
A.EE
TUNE
TUNING:L
SP
SP/LP
A.SWP
A.MON1
HI-FI ENV
A.MUTE
HI-FI DET
HI-FI/NOR
INT/EXT
NICAM/FM
TV MODE
BILINGUAL
A.MON.2
X600
SERVO/SYSCON MI-COM
MAIN PCB
SERVO/SYSCON PCB(1/2)
P702
NC
SUR.IN.R
GND
SUR.IN.L
IDL 5V
J2
P1
+14V
-8V
PROTECT
MAIN.IN.R
A.GND
MAIN.IN.L
WP102
WP291
SUR.OUT L
SUR.OUT R
F/R SW
P2
SURROUND PCB
MAIN AMP PCB
P101
REAR
SW1
FRONT
WP290
SP.OUT.L
SP.OUT.R
PJ102
PJ101
VARIABLE AUDIO OUT
TM101
L-CH
R-CH
SP OUT

:PB SIGNAL LINE
:REC SIGNAL LINE

VS-F600/A650
EA·EK·EO·EOH·EOG-V
AUDIO
BLOCK DIAGRAM
NO.5-4 V112354M

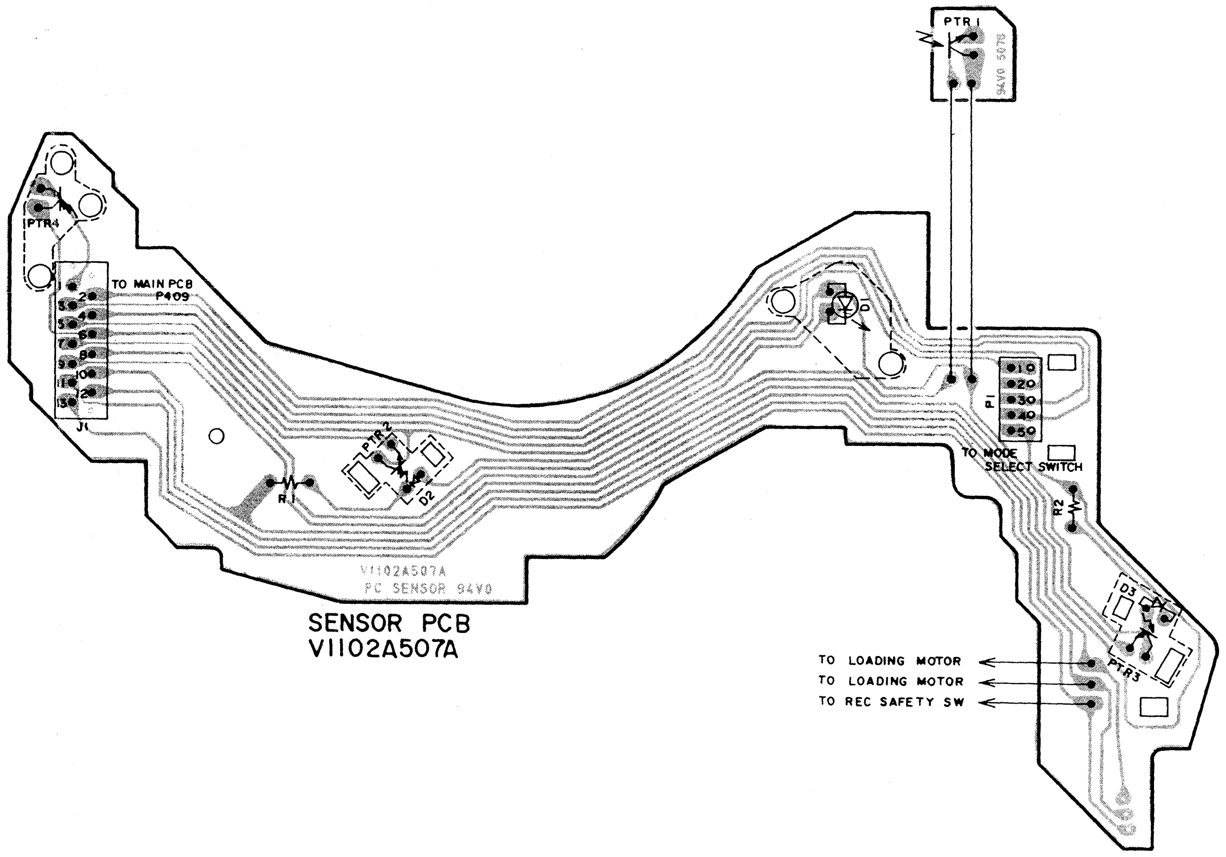

AUDIO MICOM
IC12
M50927-HFXAUDI-230
CLK
DATA
STB (F)
STB (R)
DOL
DOWN
UP
READY
S.CLK
SO
SI
X2
IDL5V
TR8
TR7
TR6
DIGITAL DELAY
IC3
BA15218
1/2
IC4
M50198P
LPF1
OP1
OP2
LPF2
4.7K
FORECASTER
SELF RESET
RESET
CLK
DATA IN
DELAY DATA OUT
CC1
CC2
DELAY DATA OUT
MAIN CONTROL LOGIC
BK SRAM
DELAY TIME CONTROL
MUTE TIME CONTROL
DIG. GND
ANG. GND
Vcc
VDD
IC5 LA2730
DOLBY B TYPE DECODER
VREF
V/CON
DOLBY SURROUND TP1
TR2
EF
IC7
TC9176P
REAR LEVEL CONTROL
IC8
BA15218
IC10 1/2
BU4066B
IC10 2/2
FRONT/REAR
TR5
TR4
INV
P2
V.OUT.L
A.GND
A.OUT.R
F/R
WP101
PJ102
PJ101
VARIABLE OUTPUT
L
R
SW1
REAR
FRONT
(FRONT/REAR SELECT)
MAIN PCB
L-CH SP OUT
R-CH SP OUT
TM101
P101
SP.OUT.L
A.GND
A.GND
SP.OUT.R
P1
MAIN.IN.L
MAIN.IN.R
-8V
+14V
WP102
IC101
LM1875T
POWER AMP
+20V
-20V
+24V
-24V
TO POWER PCB
+12V REG
+24V REG
MAIN AMP PCB
IC1
BA15218
2/2
IC2
BA15218
2/2
1/2
FRONT LEVEL CONTROL
TR1
EF
IC6
TC9176P
AUDIO SIGNAL LINE
SAME AS RIGHT CHANNEL
P3
J1
J2
SI
SO
S.CLK
READY
IDL5V
SU.IN.L
SU.IN.R
TO MAIN PCB
TO MAIN PCB
SURROUND PCB V1123B510A
WP201
VR201 100KB
INPUT BALANCE
DOL.SUR
VOL.DOWN
VOL.UP
D206
D205
D204
VOLUME PCB
V1123B510C
A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8

VS-A650
EA·EK·EO·EOH·EOG-V
SURROUND
BLOCK DIAGRAM
NO.5-5 V112355M

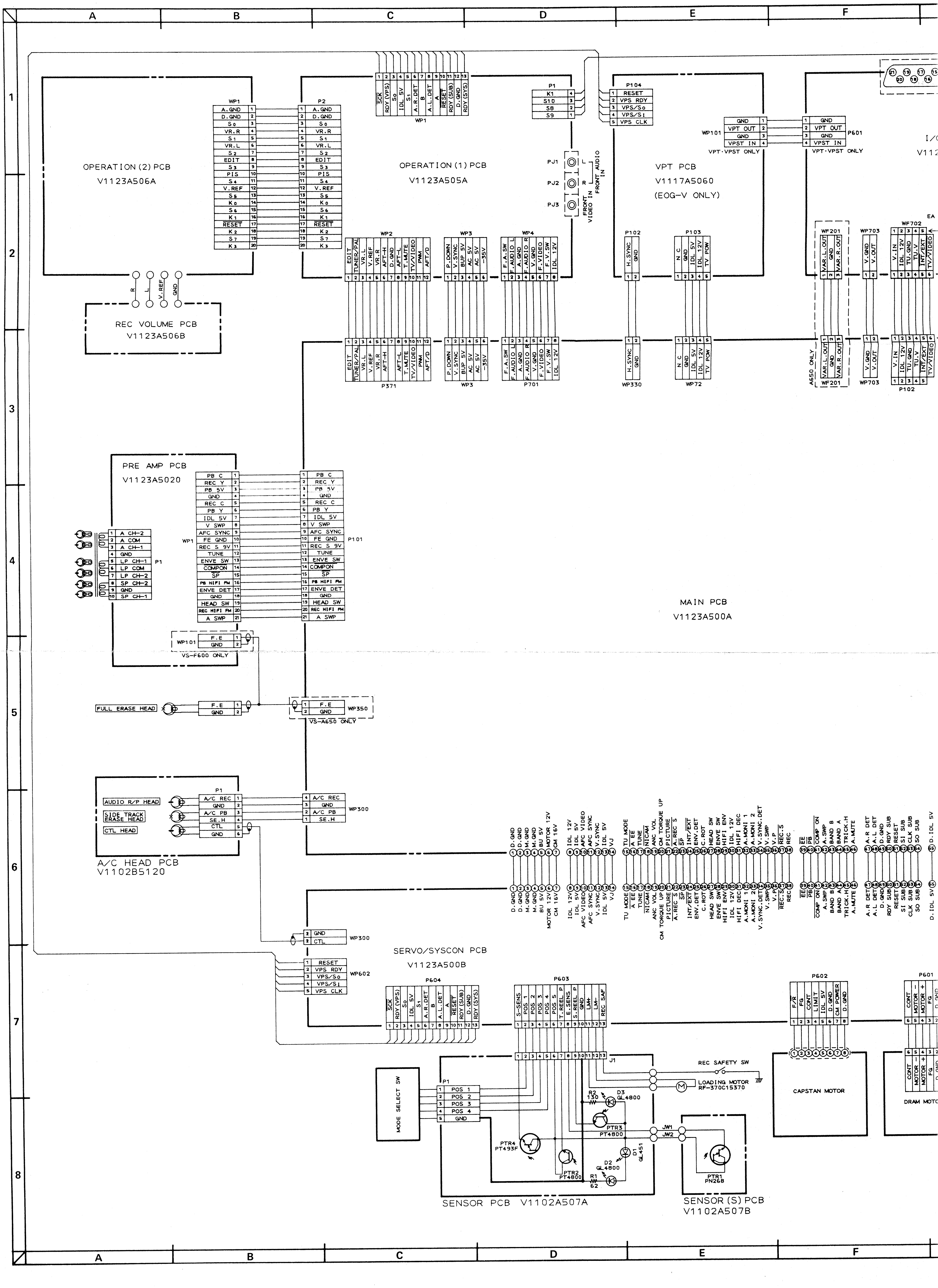

P1
1 2 3 4 5 6
TO MAIN PCB
WP301
AUDIO HEAD
S.ERASE HEAD
CTL HEAD

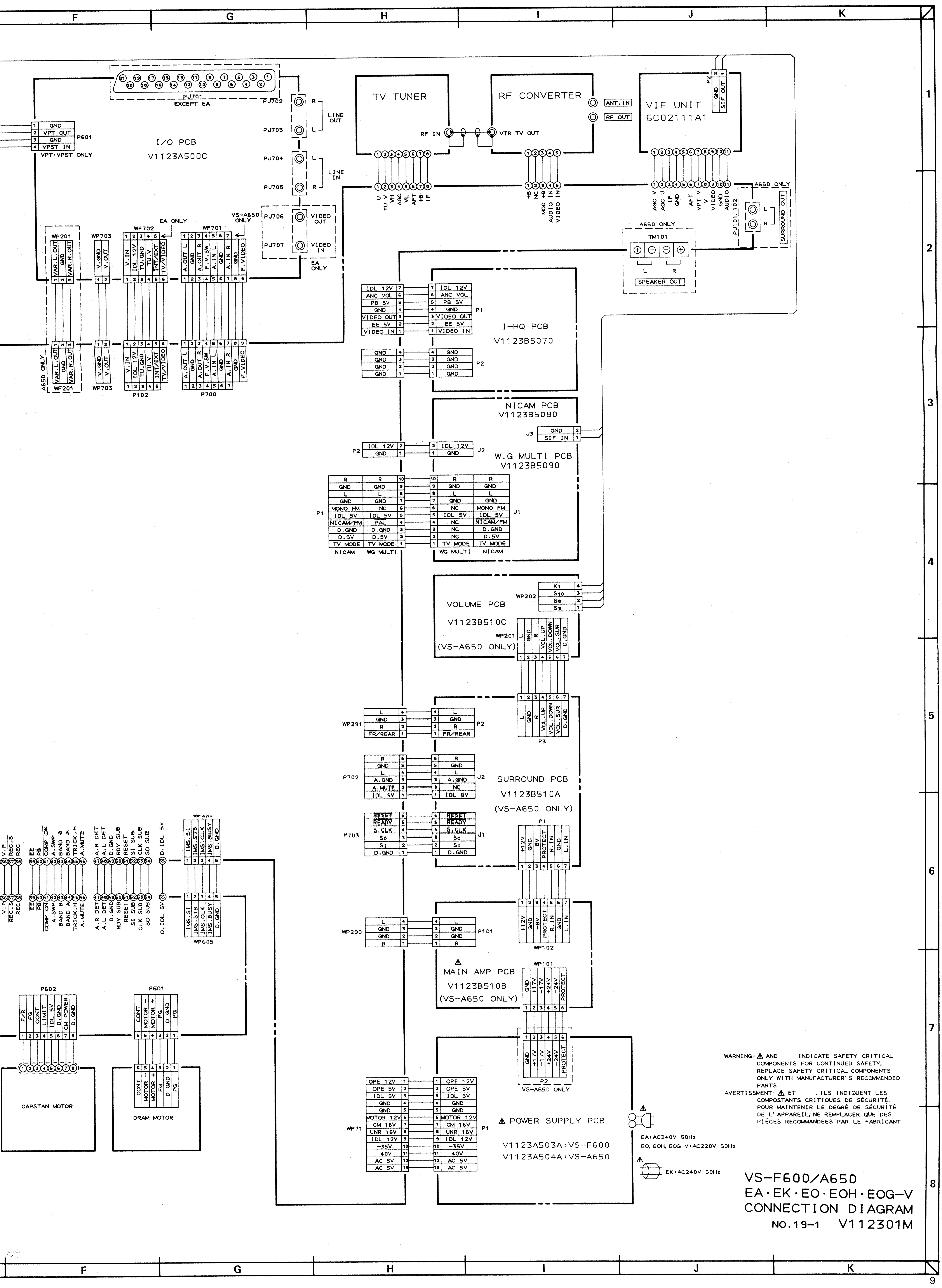
A/C HEAD PCB
V1102B5120J1

SENSOR(S) PCB
V1102A507B


PTR1
94V0 507B
PTR4
TO MAIN PCB
P409
J1
1 2 3 4 5 6 7 8 9 10 11 12 13
R1
PTR2
D2
V1102A507A
PC SENSOR 94V0
D1
P1
1 2 3 4 5
TO MODE SELECT SWITCH
R2
D3
PTR3
TO LOADING MOTOR
TO LOADING MOTOR
TO REC SAFETY SW

SENSOR PCB
V1102A507A

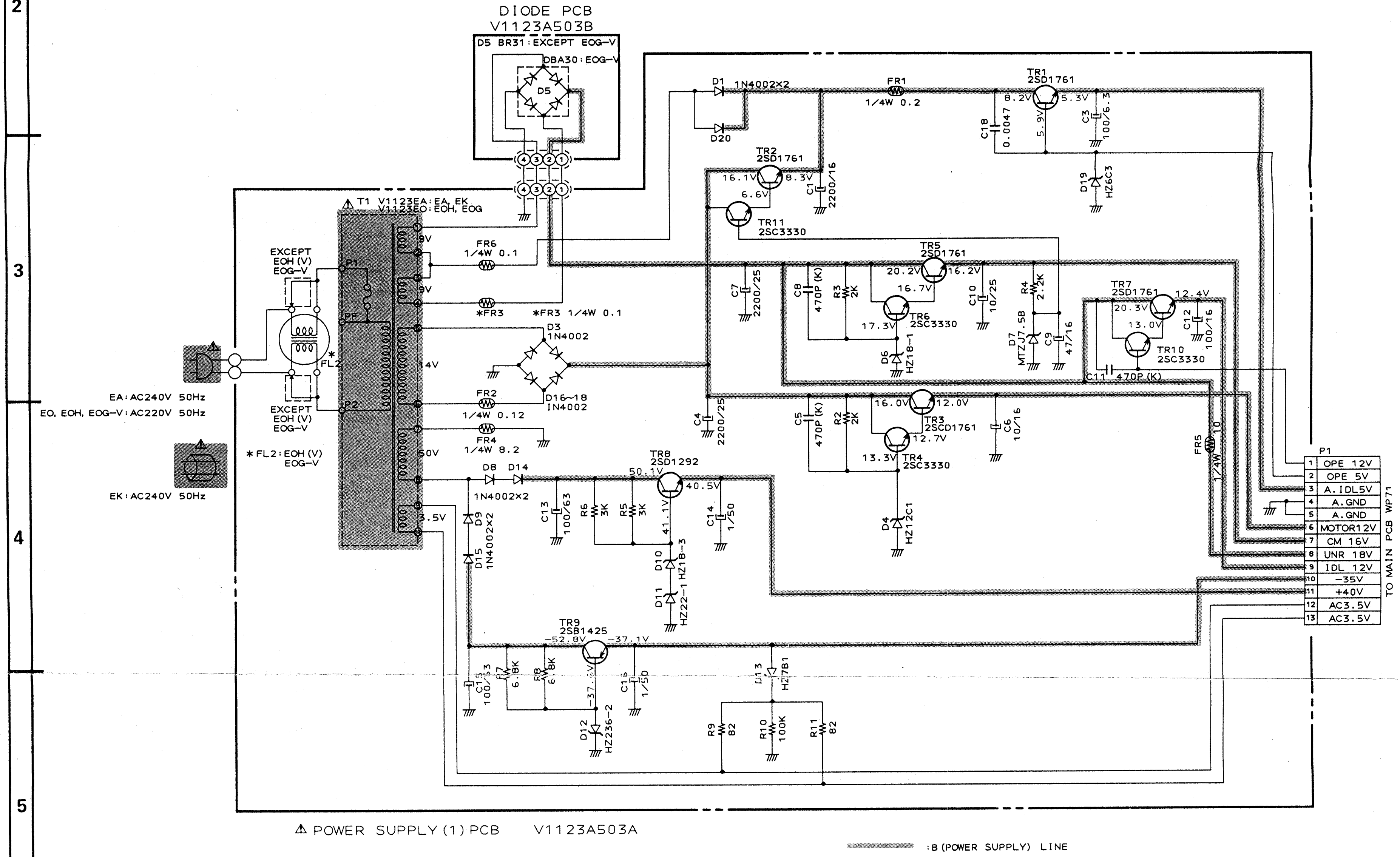

OPERATION (2) PCB
V1123A506A
OPERATION (1) PCB
V1123A505A
WP1
P2
A.GND
D.GND
So
VR.R
S1
VR.L
S2
EDIT
S3
PIS
S4
V.REF
S5
Ko
S6
K1
RESET
K2
S7
K3
REC VOLUME PCB
V1123A506B
R
L
V.REF
GND
SCK
RDY (VPS)
So
IDL 5V
S1
A.R.DET
B
A.L.DET
A
RESET
RDY (SUB)
D.GND
RDY (SYS)
P1
K1
S10
S8
S9
PJ1
PJ2
PJ3
L
R
FRONT AUDIO IN
FRONT VIDEO IN
P104
RESET
VPS RDY
VPS/So
VPS/S1
VPS CLK
VPT PCB
V1117A5060
(EOG-V ONLY)
WP101
GND
VPT OUT
VPST IN
VPT·VPST ONLY
P601
I/O
V112
WP2
EDIT
TUNER/PAL
V.REF
VR.L
VR.R
AFT-H
D.GND
AFT-L
T.MUTE
TV/VIDEO
PWM
AFT/D
P371
WP3
P.DOWN
V.SYNC
BUP 5V
AC 5V
-35V
WP4
P701
F.A.SW
F.AUDIO L
A.GND
F.AUDIO R
V.GND
F.VIDEO
F.V.SW
IDL 12V
P102
WP330
H.SYNC
GND
P103
WP72
N C
IDL 5V
IDL 12V
TV POW
WF201
A650 ONLY
VAR.L.OUT
VAR.R.OUT
WP703
V.GND
V.OUT
WF702
P102
V.IN
TU.GND
TU.V
INT/EXT
TV/VIDEO
EA
PRE AMP PCB
V1123A5020
P1
A CH-2
A COM
A CH-1
LP CH-1
LP COM
LP CH-2
SP CH-2
SP CH-1
WP1
P101
PB C
REC Y
PB 5V
REC C
PB Y
V SWP
AFC SYNC
FE GND
REC S 9V
TUNE
ENVE SW
COMPON
SP
PB HIFI FM
ENVE DET
HEAD SW
REC HIFI FM
A SWP
MAIN PCB
V1123A500A
WP101
F.E
VS-F600 ONLY
FULL ERASE HEAD
WP350
VS-A650 ONLY
AUDIO R/P HEAD
SIDE TRACK ERASE HEAD
CTL HEAD
A/C REC
A/C PB
SE.H
CTL
WP300
A/C HEAD PCB
V1102B5120
D.GND
M.GND
BU 5V
MOTOR 12V
CM 16V
IDL 12V
IDL 5V
AFC VIDEO
AFC SYNC
V.SYNC
VJ
TU MODE
A EE
TUNE
NICAM
ANC VOL
CM TORQUE UP
PICTURE
A.REC S
SP
INT/EXT
ENV.DET
C.ROT
HEAD SW
ENVE SW
HIFI ENV
HIFI DEC
A.MONI 1
A.MONI 2
V.SYNC.DET
V.SWP
V.P
REC.S
REC
EE
PB
COMP ON
A.SWP
BAND B
BAND A
TRICK.H
A.MUTE
A.R DET
A.L DET
RDY SUB
SI SUB
CLK SUB
SO SUB
D.IDL 5V
SERVO/SYSCON PCB
V1123A500B
WP602
P604
P603
S-SENS
POS 1
POS 2
POS 3
POS 4
POS 5
T.REEL P
E.SENS
S.REEL P
LM+
LM-
REC SAF
P602
F/R
FG
CONT
LIMIT
CM POWER
P601
MOTOR -
MOTOR +
J1
REC SAFETY SW
LOADING MOTOR
RF-370C15370
CAPSTAN MOTOR
DRAM MOTO
MODE SELECT SW
R2
130
D3
GL4800
PTR3
PT4800
PTR4
PT493F
PTR2
PT4800
D1
GL451
D2
GL4800
R1
62
JW1
JW2
PTR1
PN268
SENSOR PCB V1102A507A
SENSOR (S) PCB
V1102A507B
A
B
C
D
E
F
1
2
3
4
5
6
7
8


F
G
H
I
J
K
1
2
3
4
5
6
7
8
9
PJ701
EXCEPT EA
PJ702
PJ703
PJ704
PJ705
LINE OUT
LINE IN
R
L
I/O PCB
V1123A500C
P601
GND
VPT OUT
GND
VPST IN
VPT·VPST ONLY
EA ONLY
VS-A650 ONLY
PJ706
PJ707
VIDEO OUT
VIDEO IN
EA ONLY
WF201
WP703
WF702
WF701
VAR.L.OUT
GND
VAR.R.OUT
V.GND
V.OUT
V.IN
IDL 12V
TU.GND
TU.V
INT/EXT
TV/VIDEO
A.OUT L
GND
A.OUT R
F.V.SW
A.IN L
GND
A.IN R
GND
F.VIDEO
A650 ONLY
P102
P700
TV TUNER
RF IN
RF CONVERTER
VTR TV OUT
ANT.IN
RF OUT
VIF UNIT
6C02111A1
P2
GND
SIF OUT
U
V
VH
AGC
VL
AFT
+B
IF
+B
NC
MOD
+B
AUDIO IN
VIDEO IN
AGC V
AGC U
IF
GND
AFT
VPT V
V
VIDEO
GND
AUDIO
A650 ONLY
PJ101,102
SURROUND OUT
TM101
SPEAKER OUT
IDL 12V
ANC VOL
PB 5V
GND
VIDEO OUT
EE 5V
VIDEO IN
P1
I-HQ PCB
V1123B5070
P2
NICAM PCB
V1123B5080
J3
GND
SIF IN
P2
J2
W.G MULTI PCB
V1123B5090
P1
J1
R
GND
L
MONO FM
IDL 5V
NICAM/FM
D.GND
D.5V
TV MODE
NC
PAL
NICAM
WG MULTI
WP202
K1
S10
Se
So
VOLUME PCB
V1123B510C
WP201
(VS-A650 ONLY)
VOL.UP
VOL.DOWN
VOL.SUR
D.GND
P3
WP291
FR/REAR
P2
P702
A.GND
A.MUTE
IDL 5V
J2
SURROUND PCB
V1123B510A
(VS-A650 ONLY)
P703
RESET
READY
S.CLK
So
SI
D.GND
J1
+12V
GND
-8V
PROTECT
R.IN
L.IN
WP290
P101
WP102
WP101
MAIN AMP PCB
V1123B510B
(VS-A650 ONLY)
+17V
-17V
+24V
-24V
P2
VS-A650 ONLY
V.P
REC.S
REC
EE
PB
COMP ON
A.SWP
BAND B
BAND A
TRICK.H
A.MUTE
A.R DET
A.L DET
D.GND
RDY SUB
RESET
SI SUB
CLK SUB
SO SUB
D.IDL 5V
WP401
WP605
IMS.SI
IMS.STB
IMS.CLK
IMS.BUSY
P602
F/R
FG
CONT
LIMIT
IDL 5V
D.GND
CM POWER
P601
CONT
MOTOR -
MOTOR +
FG
D GND
PG
CAPSTAN MOTOR
DRAM MOTOR
WP71
OPE 12V
OPE 5V
IDL 5V
GND
MOTOR 12V
CM 16V
UNR 16V
IDL 12V
-35V
40V
AC 5V
P1
POWER SUPPLY PCB
V1123A503A:VS-F600
V1123A504A:VS-A650
EA:AC240V 50Hz
EO, EOH, EOG-V:AC220V 50Hz
EK:AC240V 50Hz

WARNING: ⚠ AND INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ⚠ ET , ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

VS-F600/A650
EA·EK·EO·EOH·EOG-V
CONNECTION DIAGRAM
NO.19-1 V112301M


DIODE PCB
V1123A503B
D5 BR31:EXCEPT EOG-V
DBA30:EOG-V
D5
T1 V1123EA:EA, EK
V1123EO:EOH, EOG
EXCEPT EOH (V) EOG-V
EXCEPT EOH (V) EOG-V
P1
PF
P2
FL2
EA:AC240V 50Hz
EO, EOH, EOG-V:AC220V 50Hz
EK:AC240V 50Hz
*FL2:EOH (V) EOG-V
9V
9V
14V
50V
3.5V
FR6 1/4W 0.1
*FR3
*FR3 1/4W 0.1
D3 1N4002
FR2 1/4W 0.12
D16~18 1N4002
FR4 1/4W 8.2
D8 D14
1N4002×2
D9 D15 1N4002×2
D1 1N4002×2
D20
FR1 1/4W 0.2
TR1 2SD1761
8.2V
5.3V
5.9V
C18 0.0047
C3 100/6.3
D19 HZ6C3
TR2 2SD1761
16.1V
8.3V
6.6V
C1 2200/16
TR11 2SC3330
TR5 2SD1761
20.2V
16.2V
16.7V
17.3V
TR6 2SC3330
C7 2200/25
C8 470P (K)
R3 2K
C10 10/25
R4 2.2K
D6 HZ18-1
D7 MTZJ7.5B
C9 47/16
TR7 2SD1761
20.3V
12.4V
13.0V
C12 100/16
TR10 2SC3330
C11 470P (K)
C4 2200/25
C5 470P (K)
R2 2K
16.0V
12.0V
12.7V
13.3V
TR3 2SCD1761
TR4 2SC3330
C6 10/16
D4 HZ12C1
FR5 1/4W 10
TR8 2SD1292
50.1V
40.5V
41.1V
C13 100/63
R6 3K
R5 3K
C14 1/50
D10 HZ18-3
D11 HZ22-1
TR9 2SB1425
-52.8V
-37.1V
C15 100/63
R7 6.8K
R8 6.8K
C16 1/50
D12 HZ236-2
D13 HZ7B1
R9 82
R10 100K
R11 82
P1
1 OPE 12V
2 OPE 5V
3 A.IDL5V
4 A.GND
5 A.GND
6 MOTOR12V
7 CM 16V
8 UNR 18V
9 IDL 12V
10 -35V
11 +40V
12 AC3.5V
13 AC3.5V
TO MAIN PCB WP71

⚠ POWER SUPPLY (1) PCB V1123A503A

▬ :B (POWER SUPPLY) LINE

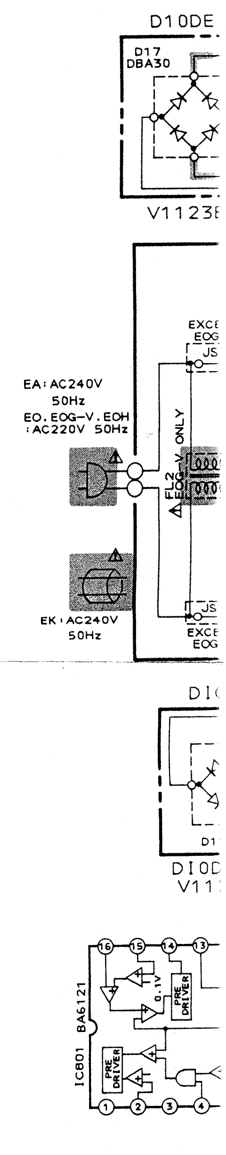
WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

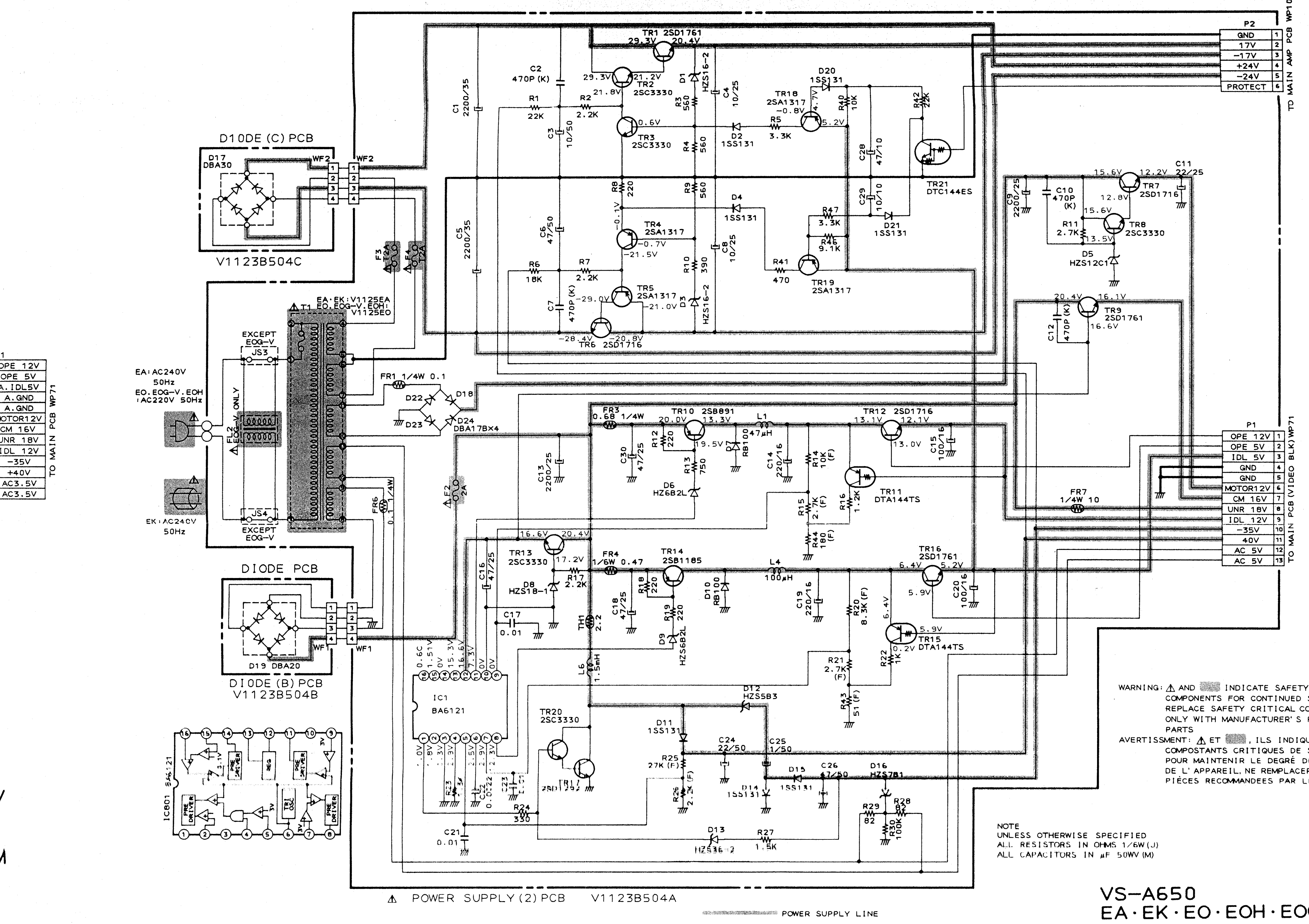
AVERTISSMENT: ⚠ ET ▨. ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μF 50WV (M)

VS-F600
EA·EK·EO·EOH·EOG-V
POWER SUPPLY (1)
SCHEMATIC DIAGRAM

NO.19-2 V112302M


D10DE
D17
DBA30
V1123
EA:AC240V
50Hz
EO, EOG-V, EOH
:AC220V 50Hz
ONLY
FL2
EOG
EK:AC240V
50Hz
D1
DIOD
V11
IC801 BA6121
PRE DRIVER
PRE DRIVER
0.1V


P2
GND 1
17V 2
−17V 3
+24V 4
−24V 5
PROTECT 6
TO MAIN AMP PCB WP101
TR1 2SD1761
29.3V
20.4V
TR2 2SC3330
29.3V
21.2V
21.8V
C2 470P (K)
R1 22K
R2 2.2K
C1 2200/35
C3 10/50
D1 HZS16−2
R3 560
C4 10/25
0.6V
TR3 2SC3330
R4 560
D2 1SS131
TR18 2SA1317
−0.8V
4.7V
5.2V
R5 3.3K
D20 1SS131
R40 10K
R42 22K
C28 47/10
TR21 DTC144ES
D10DE (C) PCB
D17 DBA30
WF2
WF2
V1123B504C
F3 T2A
F4 T2A
R8 220
R9 560
D4 1SS131
C29 10/10
R47 3.3K
R46 9.1K
D21 1SS131
C5 2200/35
C6 47/50
−0.1V
TR4 2SA1317
−0.7V
−21.5V
R10 390
C8 10/25
R41 470
TR19 2SA1317
R6 18K
R7 2.2K
C7 470P (K)
TR5 2SA1317
−29.0V
−21.0V
D3 HZS16−2
TR6 2SD1716
−28.4V
−20.8V
C9 2200/25
C10 470P (K)
15.6V
12.2V
C11 22/25
TR7 2SD1716
12.8V
15.6V
R11 2.7K
13.5V
TR8 2SC3330
D5 HZS12C1
20.4V
16.1V
TR9 2SD1761
C12 470P (K)
16.6V
EA·EK:V1125EA
EO.EOG−V.EOH: V1125EO
T1
EXCEPT EOG−V
JS3
EA:AC240V 50Hz
EO.EOG−V.EOH :AC220V 50Hz
FL2 EOG−V ONLY
EK:AC240V 50Hz
JS4
EXCEPT EOG−V
FR1 1/4W 0.1
D22
D18
D23
D24 DBA17BX4
FR3 0.68 1/4W
TR10 2SB891
20.0V
13.3V
L1 47μH
TR12 2SD1716
13.1V
12.1V
13.0V
C15 100/16
C13 2200/25
C30 47/25
R12 220
9.5V
D7 RB100
C14 220/16
R14 10K (F)
R13 750
D6 HZ6B2L
TR11 DTA144TS
R15 2.7K (F)
R16 1.2K
R44 180 (F)
F2 2A
FR6 0.1 1/4W
FR7 1/4W 10
P1
OPE 12V 1
OPE 5V 2
IDL 5V 3
GND 4
GND 5
MOTOR12V 6
CM 16V 7
UNR 18V 8
IDL 12V 9
−35V 10
40V 11
AC 5V 12
AC 5V 13
TO MAIN PCB (VIDEO BLK) WP71
DIODE PCB
WF1
WF1
D19 DBA20
DIODE (B) PCB
V1123B504B
16.6V
20.4V
TR13 2SC3330
17.2V
C16 47/25
D8 HZS18−1
R17 2.2K
C17 0.01
FR4 1/6W 0.47
TR14 2SB1185
R18 220
C18 47/25
TH1 2.2
R19 220
D9 HZS6B2L
D10 RB100
L4 100μH
C19 220/16
R20 8.3K (F)
TR16 2SD1761
6.4V
5.2V
5.9V
C20 100/16
6.4V
5.9V
TR15 DTA144TS
0.2V
R21 2.7K (F)
R22 1K
R43 51 (F)
IC1 BA6121
0.6C 1.51V 0V 15.3V 16.6V 7.3V 0V 0V
L6 1.5mH
D12 HZS5B3
TR20 2SC3330
TR17 2SD1292
D11 1SS131
C24 22/50
C25 1/50
R25 27K (F)
R26 2.2K (F)
D14 1SS131
D15 1SS131
C26 47/50
D16 HZS7B1
R29 82
R28 82
R30 100K
R23
C22 0.0022
C23
R24 330
C21 0.01
D13 HZS36−2
R27 1.5K
IC801 BA6121
PRE DRIVER
REG
TRI OSC
3V
3.1V
⚠ POWER SUPPLY (2) PCB V1123B504A
POWER SUPPLY LINE

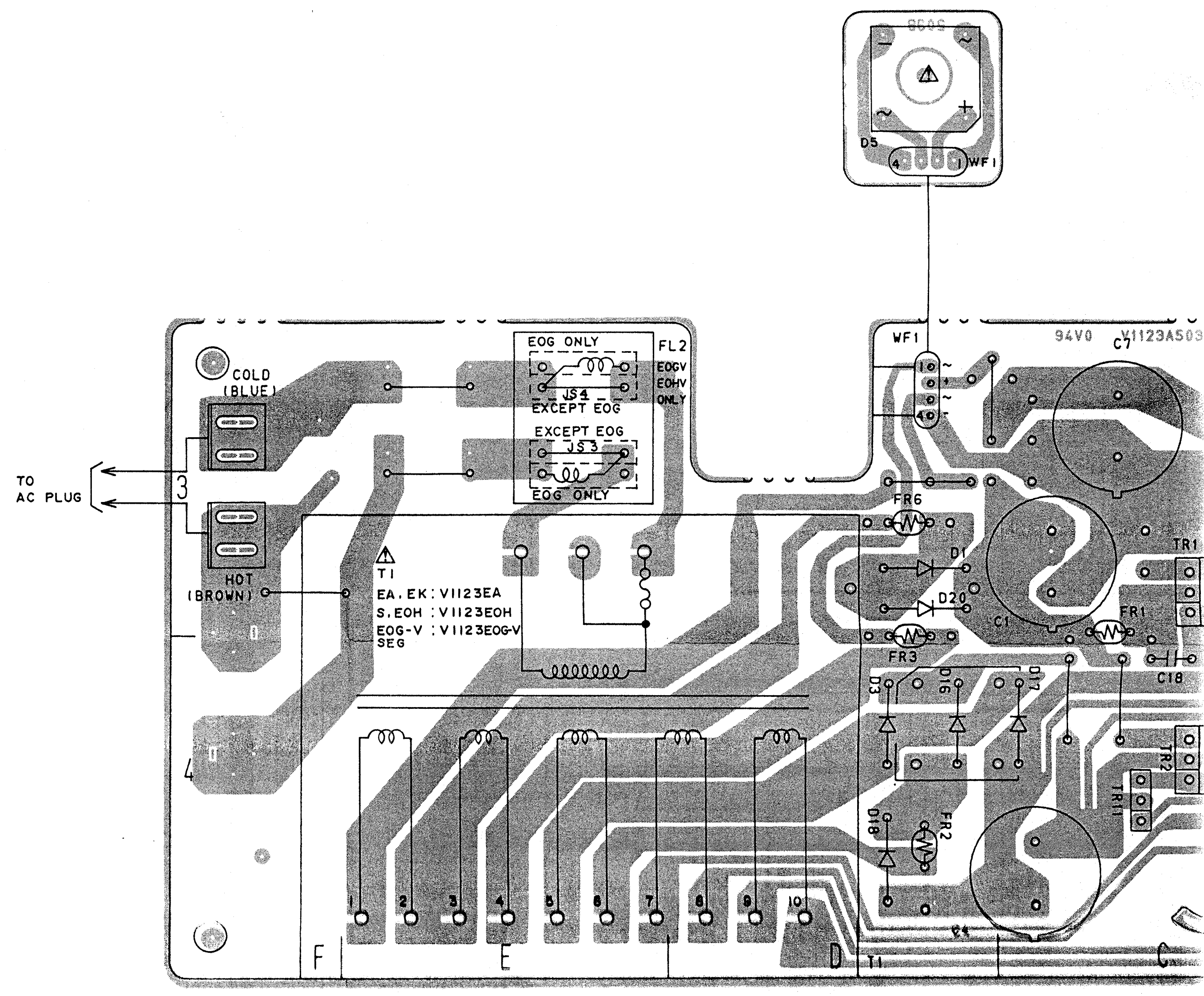
WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ, POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μF 50WV (M)

VS−A650
EA·EK·EO·EOH·EOG−V
POWER SUPPLY (2)
SCHEMATIC DIAGRAM
NO.19-3 V112303M

DIODE PCB
V1123A503B

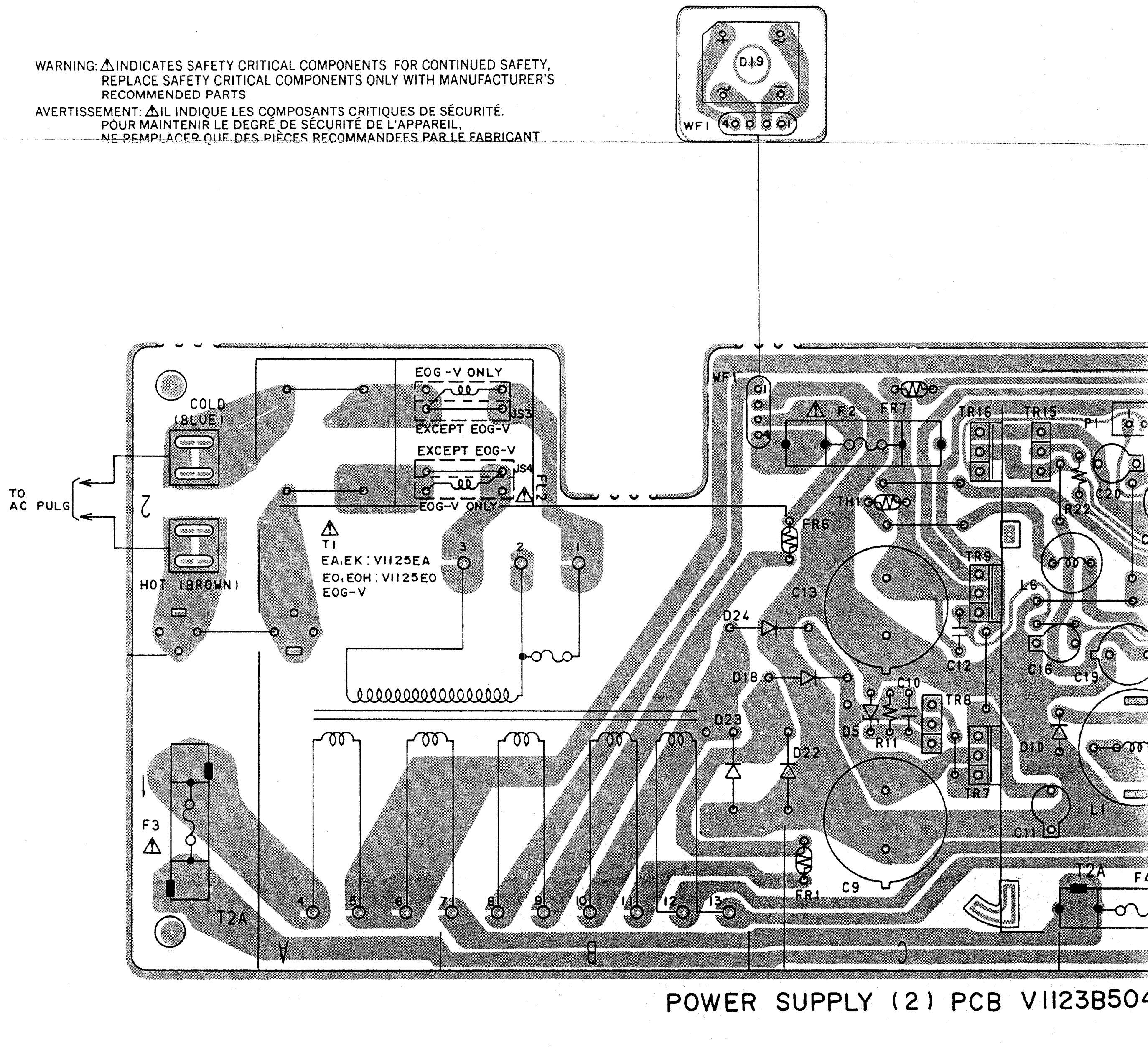

D5
WF1
COLD
(BLUE)
TO
AC PLUG
3
HOT
(BROWN)
EOG ONLY
JS4
EXCEPT EOG
FL2
EOGV
EOHV
ONLY
EXCEPT EOG
JS3
EOG ONLY
T1
EA.EK : V1123EA
S.EOH : V1123EOH
EOG-V : V1123EOG-V
SEG
4
94V0
V1123A503
C7
FR6
D1
D20
C1
FR1
TR1
FR3
C18
D3
D16
D17
TR2
TR11
D18
FR2
1
2
3
4
5
6
7
8
9
10
F
E
D
T1
C4
C

POWER SUPPLY (1) PCB V1123

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

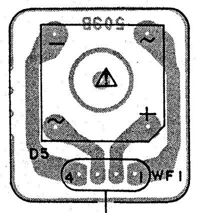
AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

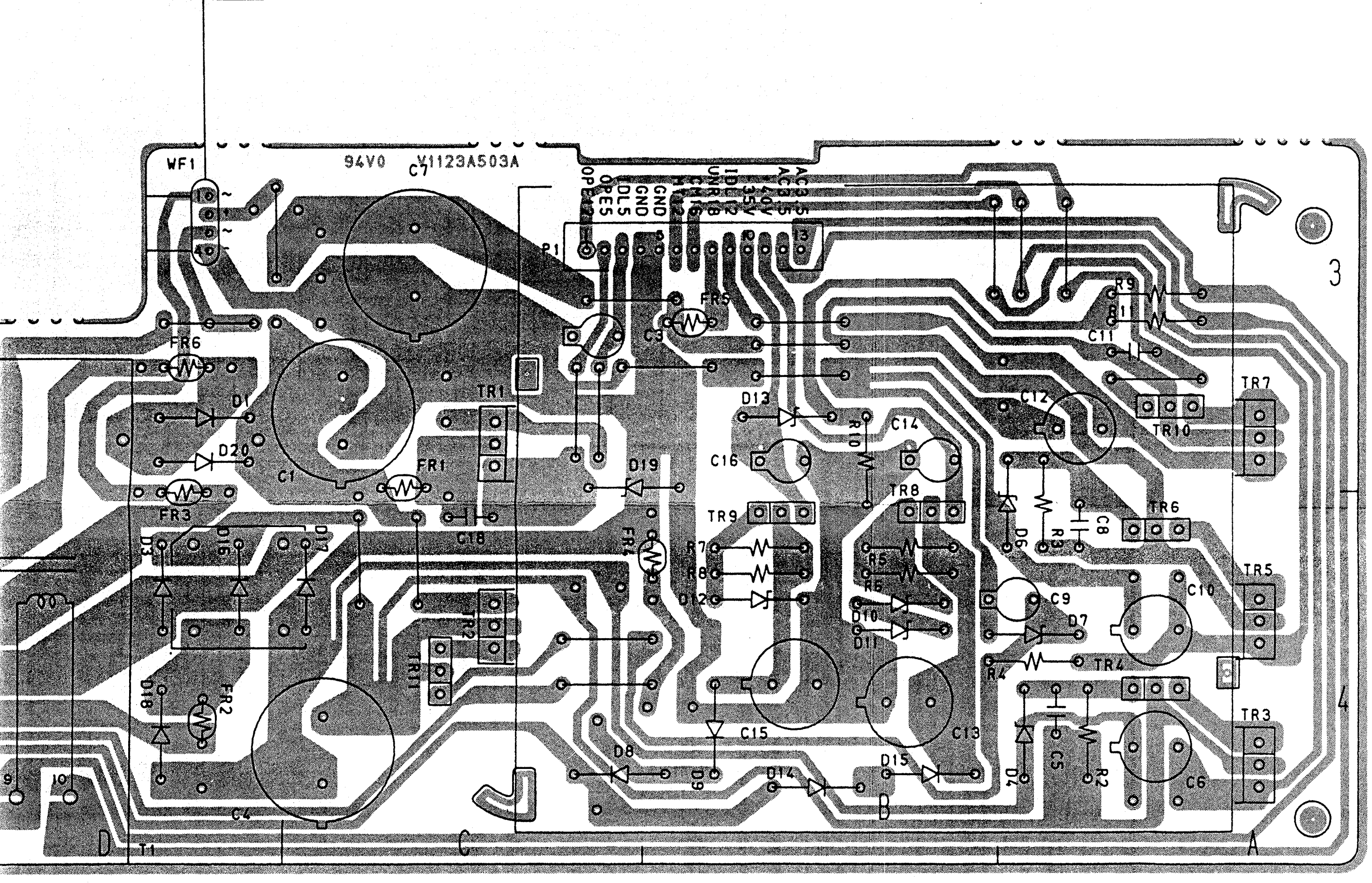
DIODE PCB
V1123B504B


D19
WF1
COLD
(BLUE)
TO
AC PULG
2
HOT (BROWN)
EOG-V ONLY
JS3
EXCEPT EOG-V
EXCEPT EOG-V
JS4
EOG-V ONLY
FL2
T1
EA.EK : V1125EA
EO.EOH : V1125EO
EOG-V
3
2
1
F3
1
T2A
A
4
5
6
7
8
9
10
11
12
13
B
C
F2
FR7
TR16
TR15
P1
TH1
R22
C20
FR6
TR9
L6
C13
D24
C12
C16
C19
D18
C10
TR8
D23
D5
R11
D10
D22
TR7
L1
C11
FR1
C9
T2A
F4

POWER SUPPLY (2) PCB V1123B504

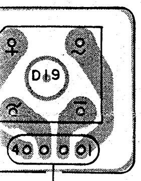
DIODE PCB
V1123A503B

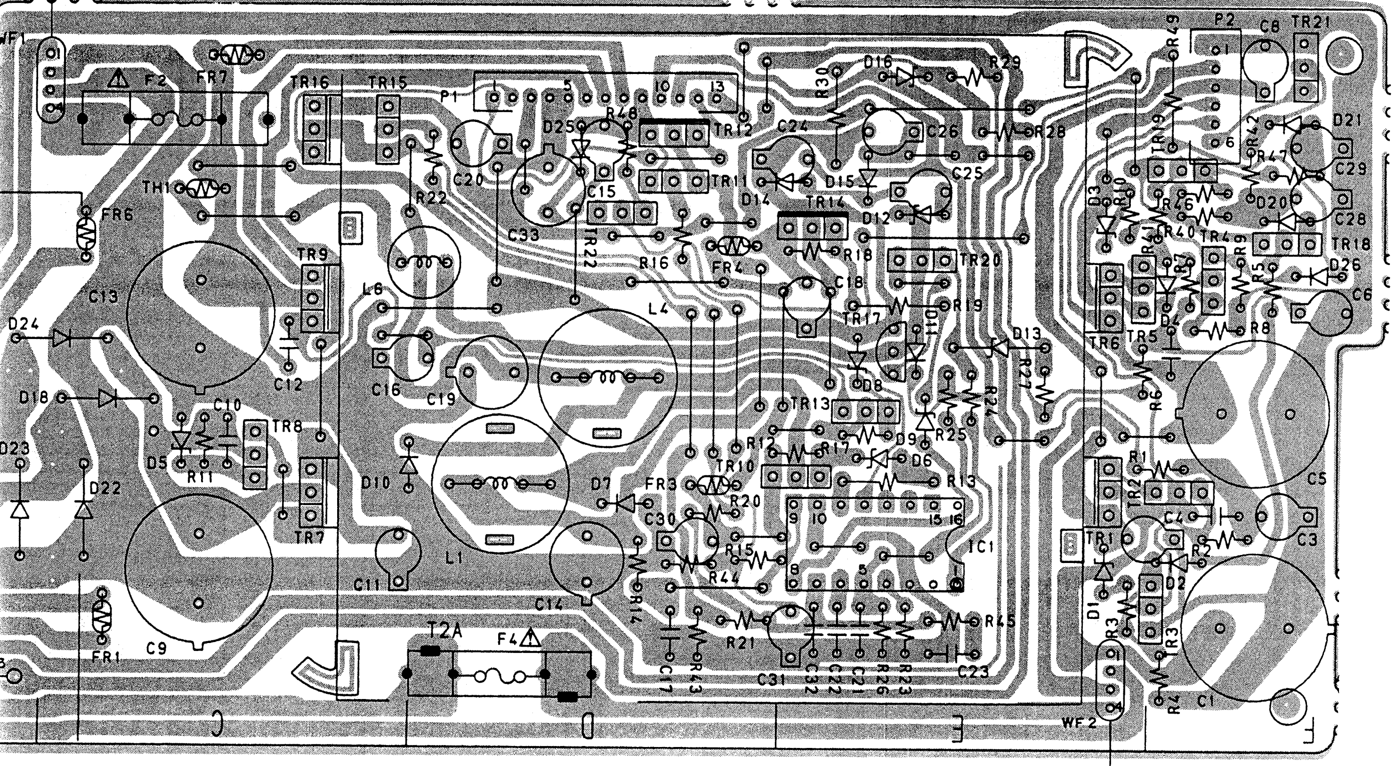



WF1
94V0
V1123A503A
P1
FR6
FR5
FR1
FR2
FR3
FR4
D1
D20
C1
C4
C7
TR1
TR2
TR3
TR4
TR5
TR6
TR7
TR8
TR9
TR10
TR11
C13
C15
C16
C14
C12
C11
C10
C9
C8
C6
C5
C18
D19
D13
D12
D11
D10
D9
D8
D7
D6
D4
D14
D15
D18
R2
R3
R4
R7
R8
R9
R10
T1
A
B
C
D
3
4

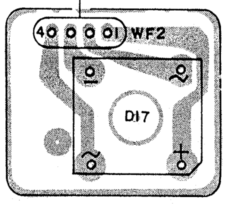
POWER SUPPLY (1) PCB V1123A503A

DE PCB
23B504B

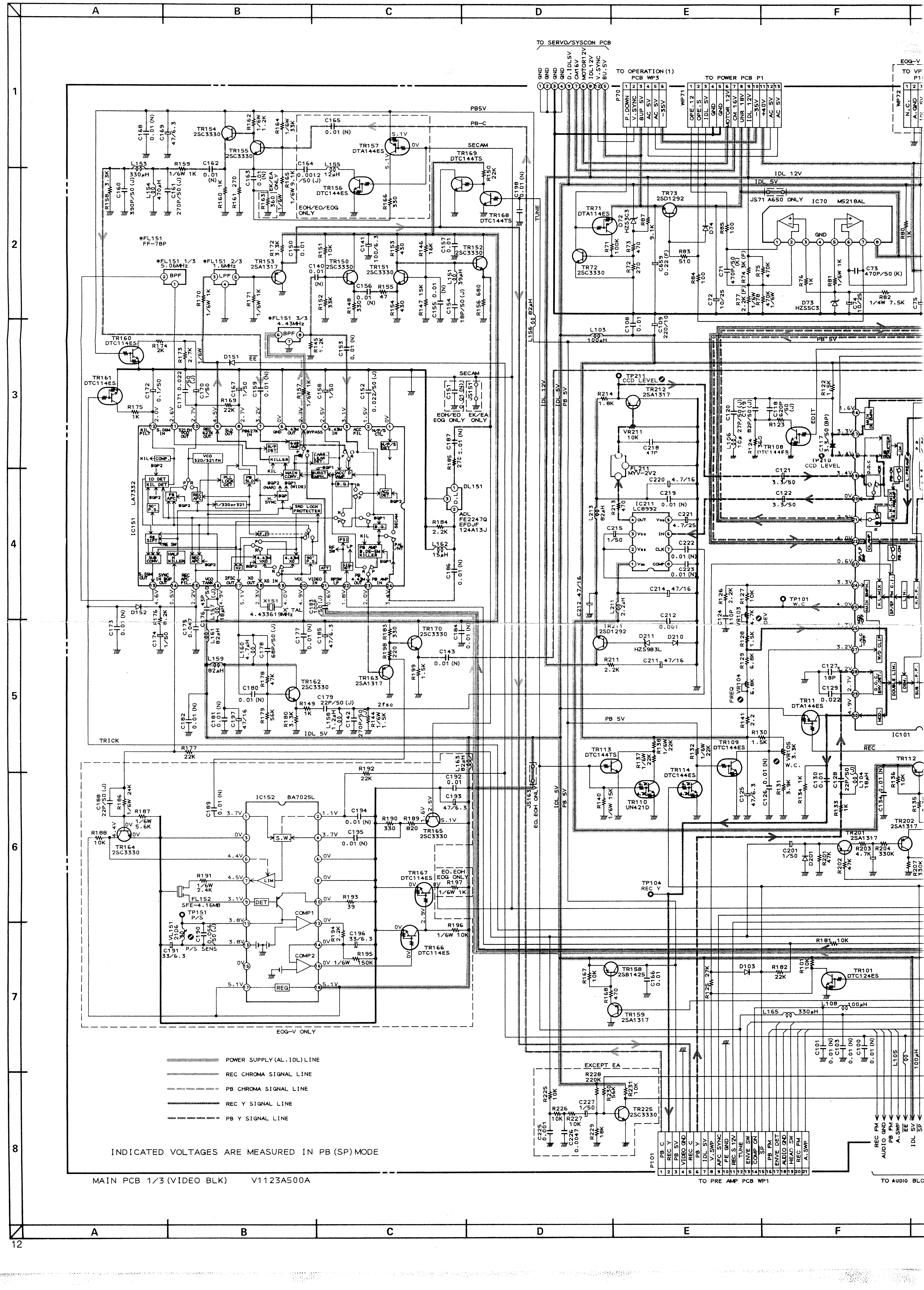



WF1
F2
FR7
TR16
TR15
P1
D25
R48
TR12
D16
R29
P2
C8
TR21
R49
C24
C26
R28
C25
TH1
C20
C15
TR11
D15
D14
TR14
D12
FR6
R22
C33
TR22
R16
FR4
R18
TR20
TR19
TR18
D21
C29
C28
D20
D26
C6
C13
TR9
L6
L4
C18
TR17
R19
D13
TR6
TR5
R8
D24
C12
C16
C19
TR13
D8
D9
R25
D18
C10
TR8
R12
R17
D6
R13
C5
D23
D5
R11
D10
D7
FR3
TR10
R20
TR2
R1
C4
D22
TR7
L1
C30
R15
R44
IC1
TR1
R2
C3
C11
C14
R14
R21
R45
D1
D2
R3
FR1
C9
T2A
F4
C17
C31
C32
C22
C21
R23
C23
R4
C1
WF2
C
D
E
F

ER SUPPLY (2) PCB V1123B504A



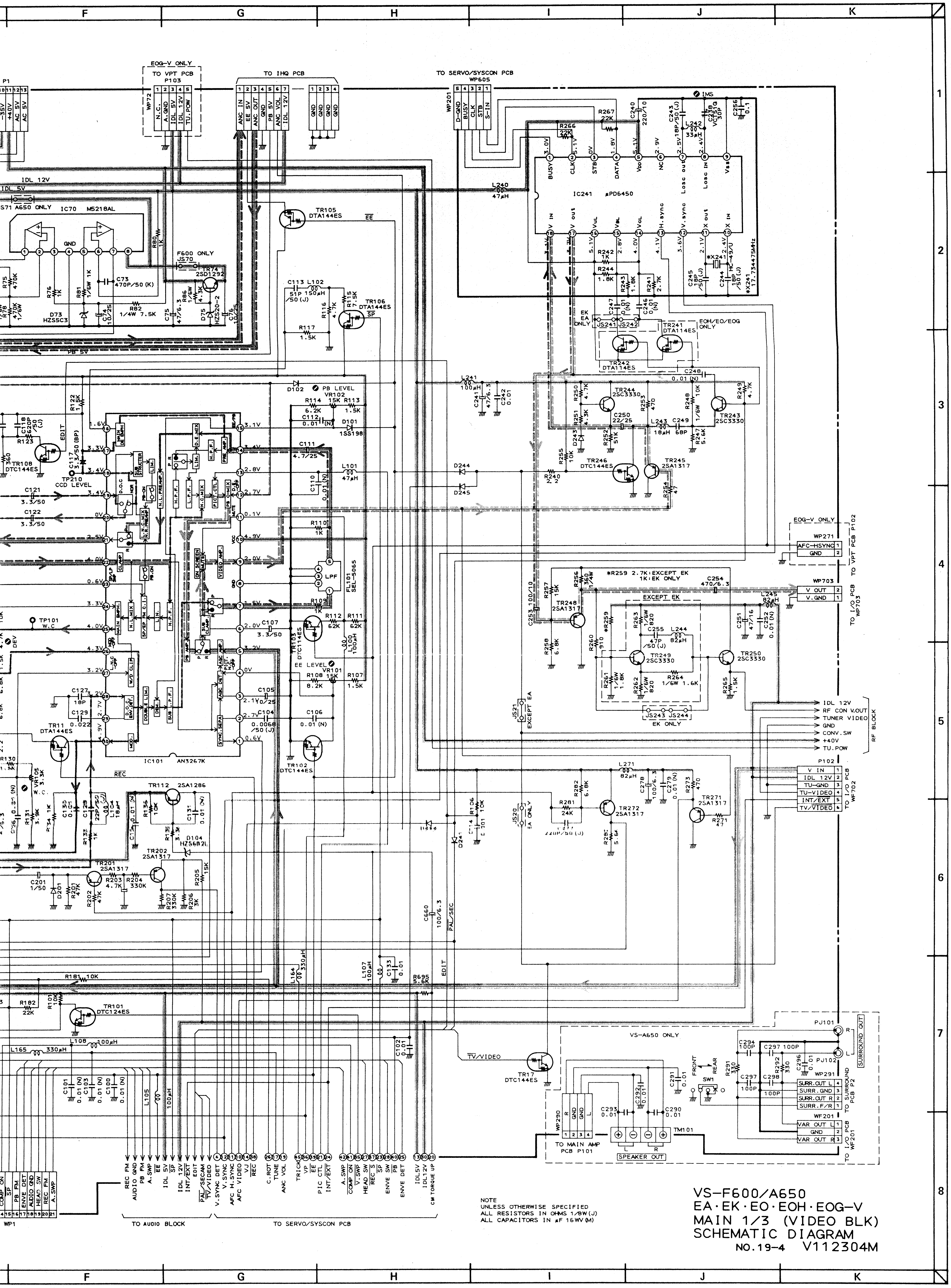
DIODE PCB
V1123B504C


A
B
C
D
E
F
1
2
3
4
5
6
7
8
TO SERVO/SYSCON PCB
GND
D.IDL5V
CM16V
MOTOR12V
IDL12V
V.SYNC
BU.5V
TO OPERATION (1) PCB WP3
P70
P.DOWN
V.SYNC
BUP 5V
AC 5V
AC 5V
-35V
TO POWER PCB P1
WP71
OPE.12
OPE.5
IDL 5V
GND
GND
MOTOR 12V
CM 16V
UNR 18V
IDL 12V
-35V
+40V
AC 5V
AC 5V
EOG-V
TO VP
WP72
N.C.
A.GND
PB5V
PB-C
SECAM
TUNE
IDL 12V
IDL 5V
JS71 A650 ONLY
IC70 M5218AL
GND
EOH/EO/EOG ONLY
*FL151 FF-78P
*FL151 1/3 5.06MHz BPF
*FL151 2/3 1.6MHz LPF
*FL151 3/3 4.43MHz BPF
TR154 2SC3330
TR155 2SC3330
TR156 DTC144ES
TR157 DTA144ES
TR169 DTC144TS
TR168 DTC144TS
TR153 2SA1317
TR150 2SC3330
TR151 2SC3330
TR152 2SC3330
TR160 DTC114ES
TR161 DTC114ES
TR71 DTA114ES
TR72 2SC3330
TR73 2SD1292
TR211 2SD1292
TR212 2SA1317
TP211 CCD LEVEL
TR108 DTC144ES
TP210 CCD LEVEL
EDIT
IC151 LA7332
IC211 LC8992
FL211 MYV-2V2
VR211 10K
DL151 ADL FE2247Q EFDJF 124A13J
SECAM
EOH/EO EOG ONLY
EK/EA ONLY
TR170 2SC3330
TR162 2SC3330
TR163 2SA1317
X151 4.433619MHz
2fsc
IDL 5V
TRICK
PB 5V
TR113 DTC144TS
TR110 UN421D
TR114 DTC144ES
TR109 DTC144ES
TR11 DTA144ES
IC101
REC
TR112
TP101 W.C
DEV
FREQ
W.C.
IC152 BA7025L
S.W.
LIM
DET
COMP1
COMP2
REG
TR164 2SC3330
TR165 2SC3330
TR167 DTC114ES
TR166 DTC114ES
EO.EOH EOG ONLY
FL152 SFE-4.16MB
TP151 P/S
VL151 21D6
P/S SENS
EOG-V ONLY
JS163 EO, EOH ONLY
TP104 REC Y
TR158 2SB1425
TR159 2SA1317
TR201 2SA1317
TR202 2SA1317
TR101 DTC124ES
EXCEPT EA
TR225 2SC3330
P101
PB C
REC Y
PB 5V
VIDEO GND
REC C
PB Y
IDL 5V
V.SWP
AFC SYNC
FE GND
REC S 12V
TUNE
ENVE SW
COMP ON
SP
PB FM
ENVE DET
AUDIO GND
HEAD SW
REC FM
A.SWP
TO PRE AMP PCB WP1
REC FM
AUDIO GND
PB FM
A.SWP
EE
IDL 5V
SP
TO AUDIO BLO

POWER SUPPLY (AL.IDL) LINE
REC CHROMA SIGNAL LINE
PB CHROMA SIGNAL LINE
REC Y SIGNAL LINE
PB Y SIGNAL LINE

INDICATED VOLTAGES ARE MEASURED IN PB (SP) MODE

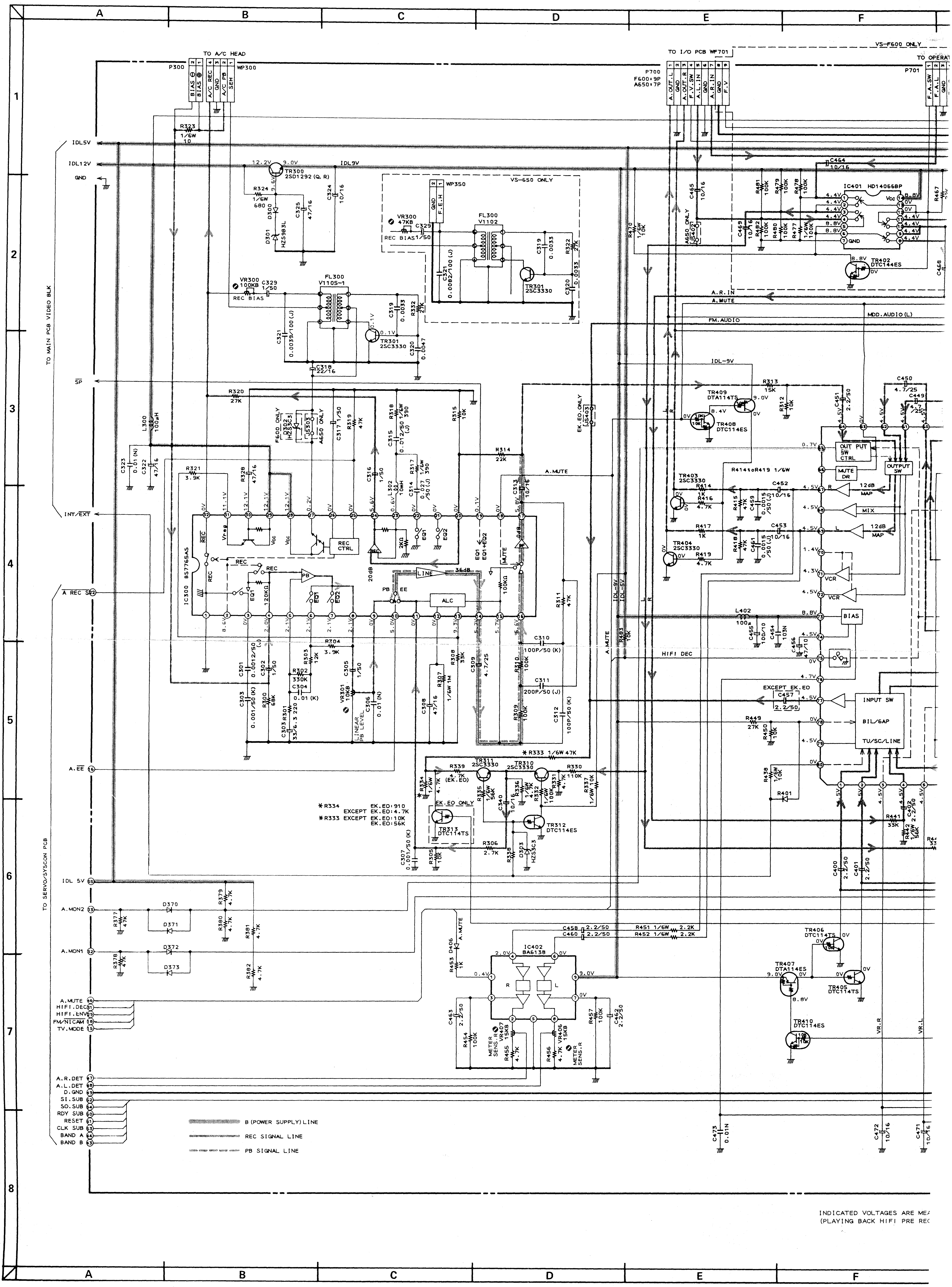
MAIN PCB 1/3 (VIDEO BLK) V1123A500A



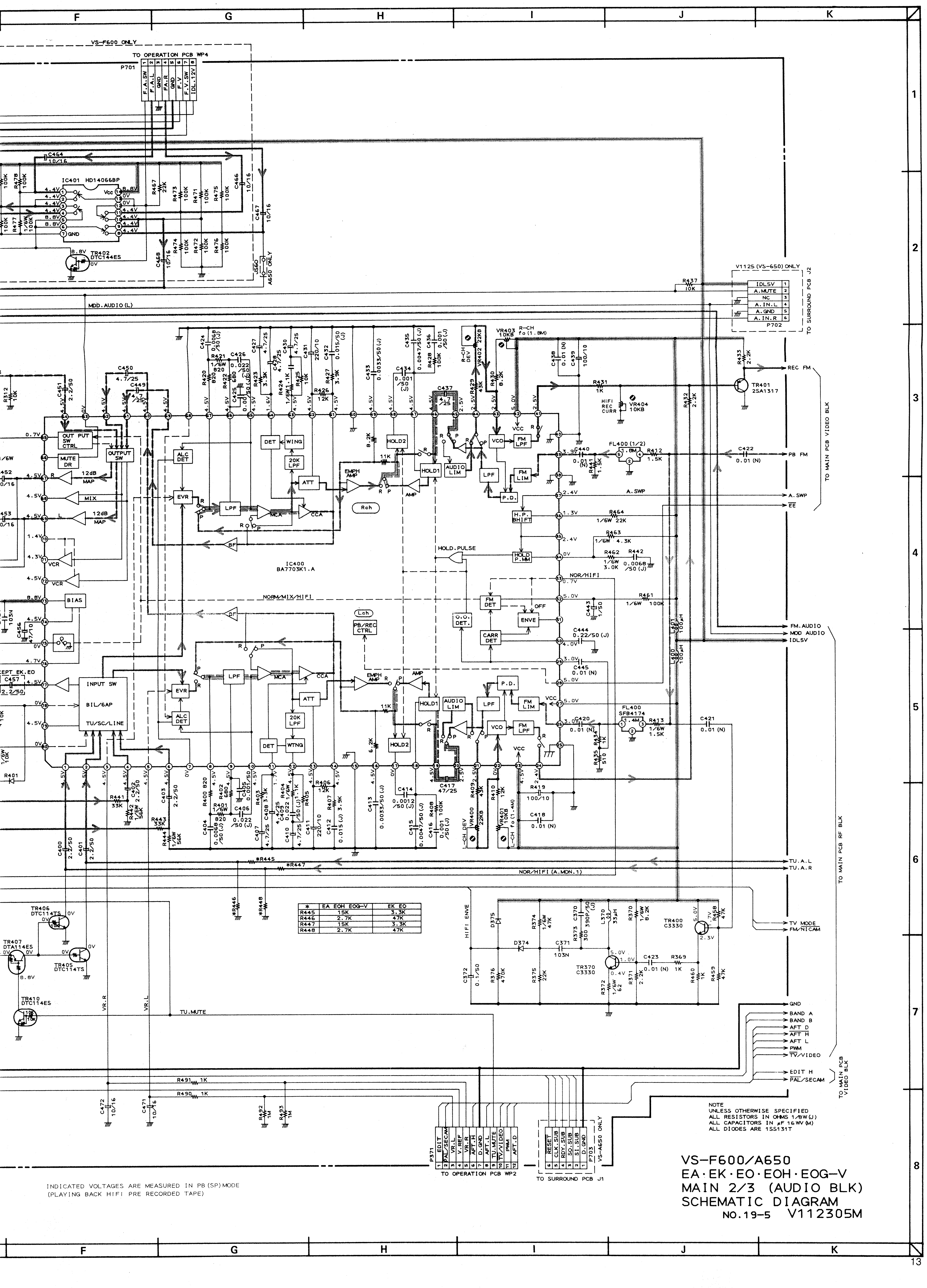
EOG-V ONLY
TO VPT PCB P103
TO IHQ PCB
TO SERVO/SYSCON PCB WP605
IMS
IC241 µPD6450
IC70 M5218AL
IC101 AN3267K
TR105 DTA144ES
TR106 DTA144ES
TR74 2SD1292
TR241 DTA114ES
TR242 DTA114ES
TR243 2SC3330
TR244 2SC3330
TR245 2SA1317
TR246 DTC144ES
TR248 2SA1317
TR249 2SC3330
TR250 2SC3330
TR271 2SA1317
TR272 2SA1317
TR101 DTC124ES
TR102 DTC144ES
TR103 DTC114ES
TR108 DTC144ES
TR11 DTA144ES
TR112 2SA1286
TR201 2SA1317
TR202 2SA1317
TR17 DTC144ES
FL101 SEL-5065
LPF
PB LEVEL VR102
EE LEVEL VR101
TP210 CCD LEVEL
TP101 W.C
*X241 HC-49/U 17.734475MHz
*R259 2.7K: EXCEPT EK 1K: EK ONLY
EXCEPT EK
EK ONLY
EK EA ONLY
EOH/EO/EOG ONLY
EXCEPT EA
EA ONLY
EOG-V ONLY
TO VPT PCB P102
TO I/O PCB WP703
TO I/O PCB WF702
RF BLOCK
IDL 12V
RF CON V.OUT
TUNER VIDEO
GND
CONV. SW
+40V
TU. POW
V IN
TU-GND
TU-VIDEO
INT/EXT
TV/VIDEO
VS-A650 ONLY
SURROUND OUT
PJ101
PJ102
SW1
FRONT
REAR
TO SURROUND PCB P2
TO I/O PCB WF201
TO MAIN AMP PCB P101
SPEAKER OUT
TM101
TO AUDIO BLOCK
TO SERVO/SYSCON PCB
WP1

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)
ALL CAPACITORS IN µF 16WV (M)

VS-F600/A650
EA·EK·EO·EOH·EOG-V
MAIN 1/3 (VIDEO BLK)
SCHEMATIC DIAGRAM
NO.19-4 V112304M


A
B
C
D
E
F
1
2
3
4
5
6
7
8
TO A/C HEAD
P300
WP300
BIAS ⊖
BIAS ⊕
A/C REC
GND
A/C PB
SEH
TO I/O PCB WF701
P700
F600:9P
A650:7P
A.OUT.L
GND
A.OUT.R
F.V.SW
A.L.IN
GND
A.R.IN
GND
F.V
VS-F600 ONLY
TO OPERAT
P701
F.A.SW
F.A.L
GND
IDL5V
IDL12V
GND
IDL9V
R323 1/6W 10
TR300 2SD1292 (Q, R)
R324 1/6W 680
D300
D301 HZS9B3L
C325 47/16
C324 10/16
VS-650 ONLY
WP350
GND
F.E.H
VR300 47KB
C329
REC BIAS 1/50
FL300 V1102
C319 0.0033
R322 2.2K
C321 0.0082/100 (J)
TR301 2SC3330
C320 0.0033
VR300 100KB
C329 1/50
REC BIAS
FL300 V1105-1
C321 0.0039/100 (J)
C319 0.0033
R332 2.2K
C320 0.0047
C318 22/16
TO MAIN PCB VIDEO BLK
SP
R320 27K
L300 100µH
C323 0.01 (N)
C322 47/16
R321 3.9K
R328 47/16
F600 ONLY
D302 HZS6C3
JS303
A650 ONLY
C317 1/50
R319 47K
R318 1/6W 390
C315 0.012/50 (J)
R317 1/6W 390
C314 0.027/50 (J)
L302 10mH
C316 1/50
R315 10K
R314 22K
A.MUTE
C313 10/16
INT/EXT
A REC S
IC300 BS7765AS
REC
Vreg
Vcc
REC CTRL
20dB
2KΩ
EQ1
EQ2
EQ1←EQ1+EQ2
0dB
MUTE
LINE
36dB
PB
EE
ALC
100KΩ
120KΩ
8.6V
2.0V
2.1V
5.0V
9.3V
5.7V
5.6V
11.1V
12.1V
0.2V
0.6V
0.1V
5.8V
R304 3.9K
R303 12K
R302 330K
C304 0.01 (K)
C305 1/50
VR301 10KB
LINEAR PB LEVEL
C306 0.01 (N)
C301 0.0012/50 (J)
C302 1/50
C303 0.001/50 (K)
R300 68K
C303 R301 33/6.3 220
C308 47/16
R307 1/6W 1M
R308 33K
C309 4.7/25
R310 100K
C310 100P/50 (K)
C311 200P/50 (J)
R309 100K
C312 100P/50 (K)
R311 47K
∗R333 1/6W 47K
A.EE
TR311 2SC3330
TR310 2SC3330
R339 4.7K (EK.EO)
R334 1/6W 4.7K
R335 1/6W 56K
R336 1/6W 4.7K
R331 1/6W 100K
R330 110K
R337 1/6W 10K
C340 10/16
TR312 DTC114ES
R306 2.7K
R338
D303 HZS6C3
EK.EO ONLY
TR313 DTC114TS
C307 0.001/50 (K)
R305 10K
∗R334 EXCEPT EK.EO:910
EK.EO:4.7K
∗R333 EXCEPT EK.EO:10K
EK.EO:56K
TO SERVO/SYSCON PCB
IDL 5V
A.MON2
A.MON1
R377 47K
R378 47K
D370
D371
D372
D373
R379 4.7K
R380 4.7K
R381 4.7K
R382 4.7K
A.MUTE
HIFI.DEC
HIFI.ENV
FM/NICAM
TV.MODE
A.R.DET
A.L.DET
D.GND
SI.SUB
SO.SUB
RDY SUB
RESET
CLK SUB
BAND A
BAND B
B (POWER SUPPLY) LINE
REC SIGNAL LINE
PB SIGNAL LINE
R453 1K
D406
A.MUTE
IC402 BA6138
R
L
2.0V
0.4V
9.0V
0V
C463 2.2/50
C462 2.2/50
R454 100K
METER SENS.R
VR407 15KB
R455 4.7K
R456 4.7K
VR406 15KB
METER SENS.R
R457 100K
C458 2.2/50
C460 2.2/50
R451 1/6W 2.2K
R452 1/6W 2.2K
C473 0.01N
C472 10/16
C471 10/16
R470 1/6W 10K
C455 10/16
A650 ONLY
JS402
C469 10/16
R482 100K
R480 100K
R481 100K
R479 100K
R477 100K
R478 100K
IC401 HD14066BP
Vcc
GND
4.4V
8.8V
TR402 DTC114ES
C464 10/16
C468
R467
A.R.IN
A.MUTE
FM.AUDIO
MDD.AUDIO (L)
IDL-9V
R313 15K
TR409 DTA114TS
TR408 DTC114ES
R312 10K
8.4V
9.0V
EK.EO ONLY
JS403
L
R
C450 4.7/25
C449 4.7/25
C451 2.2/50
OUT PUT SW CTRL
OUTPUT SW
MUTE DR
R414toR419 1/6W
TR403 2SC3330
R414 1K
R416 4.7K
R415 47K
C459 0.0015/50 (J)
C452 10/16
12dB
MAP
MIX
TR404 2SC3330
R417 1K
R419 4.7K
R418 47K
C461 0.0015/50 (J)
C453 10/16
VCR
IDL-9V
IDL-5V
R483 10K
BIAS
L402 100µ
C455 100/10
C454 103N
C456 47/10
HIFI DEC
EXCEPT EK.EO
C457 2.2/50
INPUT SW
BIL/6AP
TU/SC/LINE
R449 27K
R450 10K
R438 1/6W 10K
R401
4.5V
4.7V
4.3V
1.4V
0.7V
8.8V
R441 33K
R442 1/6W 56K
C400 2.2/50
C401 2.2/50
TR406 DTC114TS
TR407 DTA114ES
TR405 DTC114TS
TR410 DTC114ES
VR.R
VR.L

INDICATED VOLTAGES ARE MEA
(PLAYING BACK HIFI PRE REC

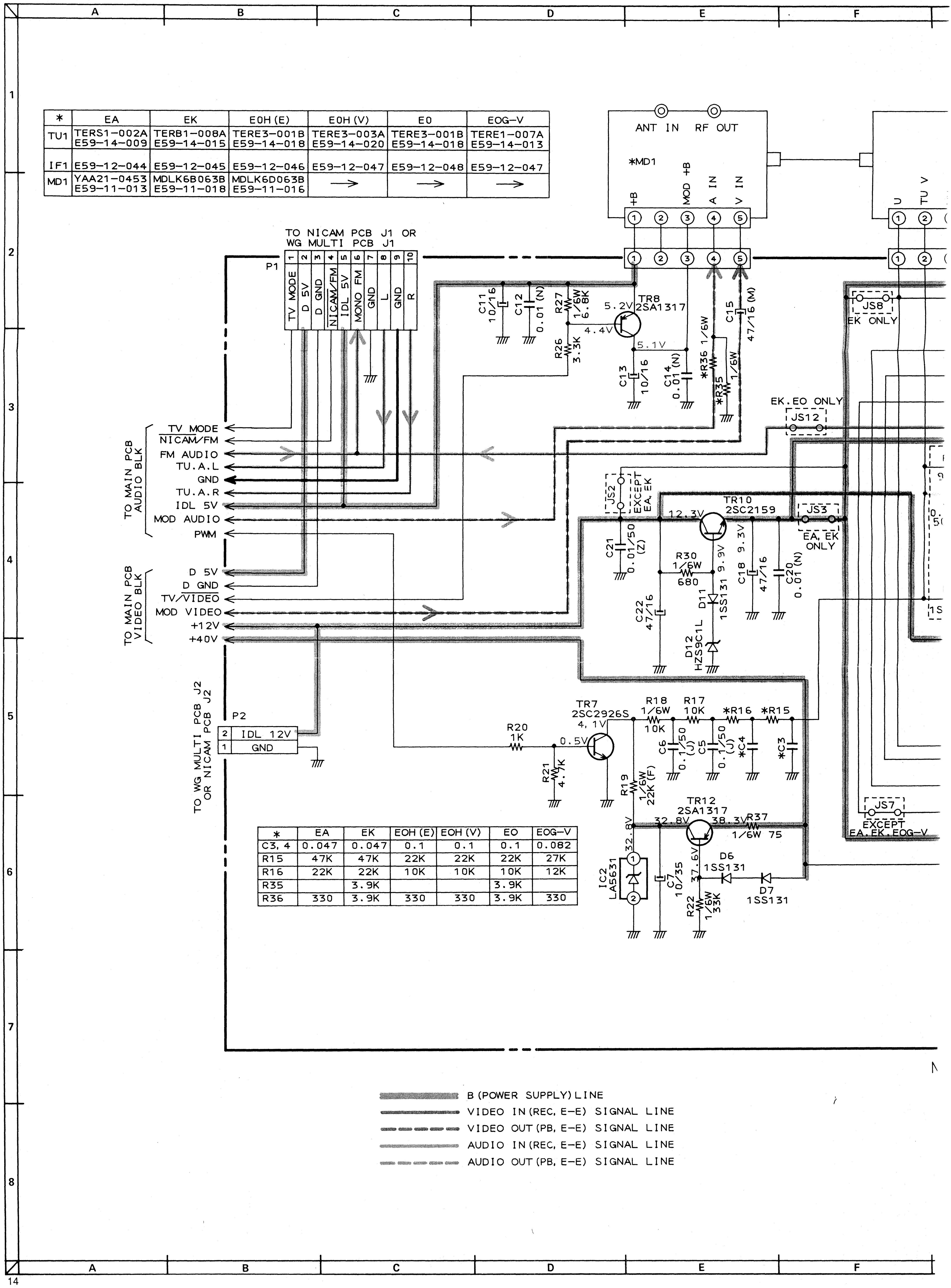

F
G
H
I
J
K
1
2
3
4
5
6
7
8
VS-F600 ONLY
TO OPERATION PCB WP4
P701
F.A.SW
F.A.L
GND
F.A.R
GND
F.V
F.V.SW
IDL.12V
C464 10/16
IC401 HD14066BP
Vcc
GND
R467 22K
R473 100K
R471 100K
R475 100K
C466 10/16
C467 10/16
R474 100K
R472 100K
R476 100K
C458 10/16
J560 A650 ONLY
TR402 DTC144ES
MOD.AUDIO(L)
V1125 (VS-650) ONLY
R437 10K
IDL5V
A.MUTE
NC
A.IN.L
A.GND
A.IN.R
P702
TO SURROUND PCB J2
REC FM
TR401 2SA1317
R433 2.2K
R431 1K
HIFI REC CURR
VR404 10KB
R432 2.2K
FL400 (1/2)
R412 1.5K
C422 0.01 (N)
PB FM
A.SWP
EE
TO MAIN PCB VIDEO BLK
R464 1/6W 22K
R463 1/6W 4.3K
R462 1/6W 3.0K
C442 0.0068 /50 (J)
R461 1/6W 100K
NOR/HIFI
HOLD.PULSE
IC400 BA7703K1.A
NORM/MIX/HIFI
C450 4.7/25
C449 4.7/25
C451 2.2/50
OUT PUT SW CTRL
MUTE DR
OUTPUT SW
12dB MAP
MIX
VCR
BIAS
ALC DET
EVR
LPF
MCA
CCA
BF
ATT
20K LPF
DET
WTNG
EMPH AMP
AMP
HOLD1
HOLD2
AUDIO LIM
VCO
FM LPF
FM LIM
P.D.
H.P. SHIFT
HOLD P.MM
FM DET
ENVE
CARR DET
D.O. DET.
PB/REC CTRL
Rch
Lch
INPUT SW
BIL/SAP
TU/SC/LINE
VR403 10KB R-CH fo (1.8M)
VR402 22KB R-CH DEV
VR400 22KB L-CH DEV
VR401 10KB L-CH fo (1.4M)
C437 4.7/25
C417 47/25
C444 0.22/50 (J)
C445 0.01 (N)
C443 1/50
L401 100μH
L400 100μH
FL400 SFB4174
R413 1/6W 1.5K
C421 0.01 (N)
C420 0.01 (N)
R434 1K
R435 510
R419 100/10
C418 0.01 (N)
FM.AUDIO
MOD AUDIO
IDL5V
TU.A.L
TU.A.R
TO MAIN PCB RF BLK
*R445
*R447
NOR/HIFI (A.MON.1)
*R446
*R448
R441 33K
R443 33K
R444 1/6W 56K
C400 2.2/50
C401 2.2/50
C403 2.2/50
TR406 DTC114TS
TR407 DTA114ES
TR405 DTC114TS
TR410 DTC114ES
VR.R
VR.L
TU.MUTE
HIFI ENVE
D375
D374
R374 1/6W 47K
C370 390P/50 (J)
L370 33μH
R373 300
C371 103N
R378 1/6W 8.2K
TR400 C3330
R458 4.7K
TR370 C3330
C372 0.1/50
R376 470K
R375 22K
C423 0.01 (N)
R369 1K
R372 1/6W 62
R371 2.2K
R460 1K
R459 47K
TV MODE
FM/NICAM
GND
BAND A
BAND B
AFT D
AFT H
AFT L
PWM
TV/VIDEO
EDIT H
PAL/SECAM
TO MAIN PCB VIDEO BLK
R491 1K
R490 1K
C472 10/16
C471 10/16
R492 1M
R493 1M
P371
EDIT
PAL/SECAM
VR.L
VR.REF
VR.R
AFT.H
D.GND
AFT.L
TU.MUTE
TV/VIDEO
PWM
AFT.D
TO OPERATION PCB WP2
RESET
CLK.SUB
RDY.SUB
SO.SUB
SI.SUB
D.GND
P703
VS-A650 ONLY
TO SURROUND PCB J1

*	EA EOH EOG-V	EK EO
R445	15K	3.3K
R446	2.7K	47K
R447	15K	3.3K
R448	2.7K	47K

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W(J)
ALL CAPACITORS IN μF 16WV(M)
ALL DIODES ARE 1SS131T

INDICATED VOLTAGES ARE MEASURED IN PB(SP) MODE
(PLAYING BACK HIFI PRE RECORDED TAPE)

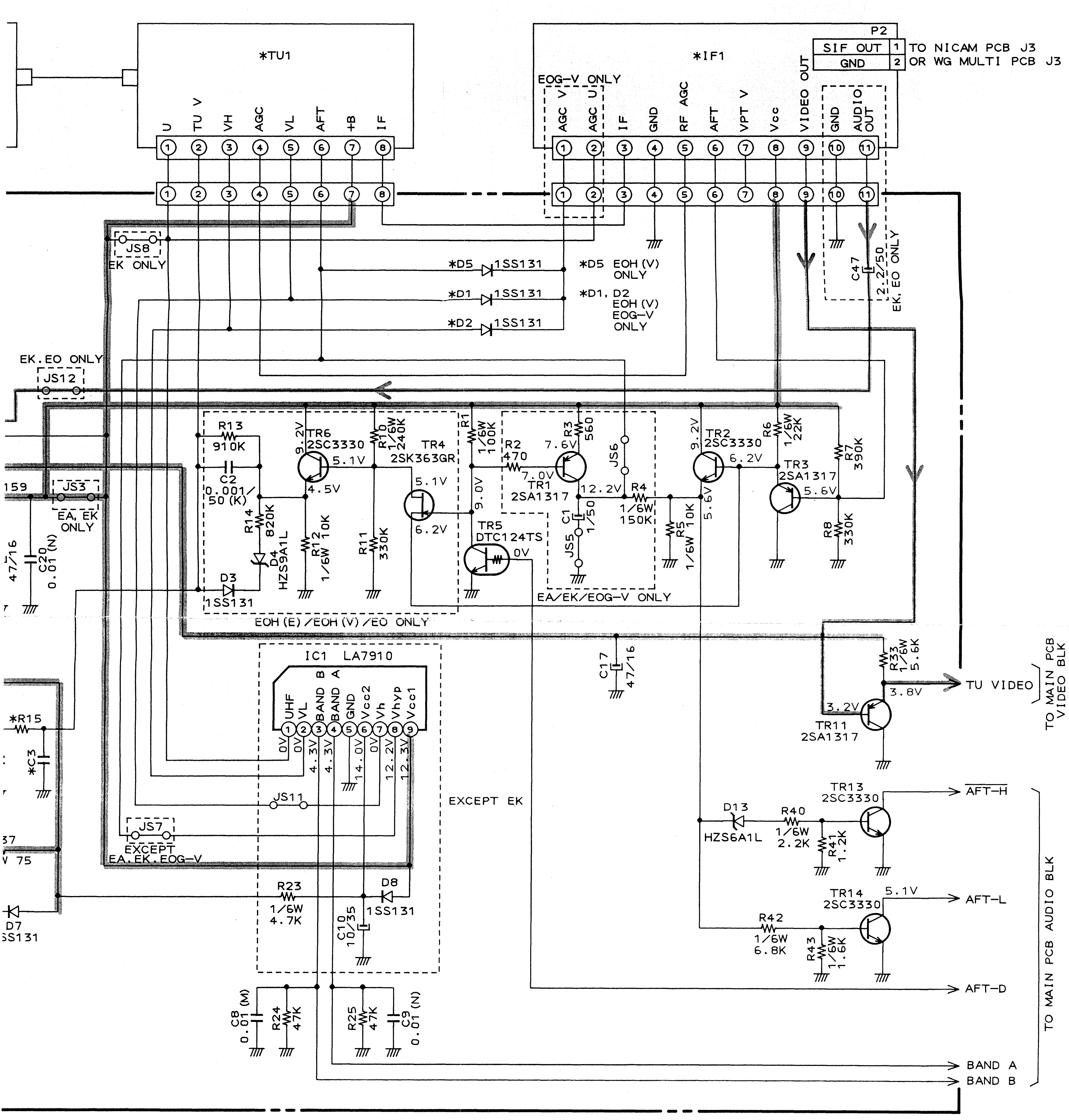
VS-F600/A650
EA·EK·EO·EOH·EOG-V
MAIN 2/3 (AUDIO BLK)
SCHEMATIC DIAGRAM
NO.19-5 V112305M


A
B
C
D
E
F
1
2
3
4
5
6
7
8
ANT IN
RF OUT
*MD1
+B
MOD +B
A IN
V IN
U
TU V
TO NICAM PCB J1 OR
WG MULTI PCB J1
P1
TV MODE
D 5V
D GND
NICAM/FM
IDL 5V
MONO FM
GND
L
GND
R
C11
10/16
C12
0.01 (N)
R27
1/6W
6.8K
TR8
2SA1317
5.2V
4.4V
5.1V
R26
3.3K
C13
10/16
C14
0.01 (N)
*R36 1/6W
*R35
1/6W
C15
47/16 (M)
JS8
EK ONLY
EK.EO ONLY
JS12
TO MAIN PCB
AUDIO BLK
TV MODE
NICAM/FM
FM AUDIO
TU.A.L
GND
TU.A.R
IDL 5V
MOD AUDIO
PWM
JS2
EXCEPT
EA, EK
TR10
2SC2159
12.3V
JS3
EA, EK
ONLY
C21
0.01/50
(Z)
R30
1/6W
680
9.9V
C18
9.3V
47/16
C20
0.01 (N)
D11
1SS131
C22
47/16
D12
HZS9C1L
TO MAIN PCB
VIDEO BLK
D 5V
D GND
TV/VIDEO
MOD VIDEO
+12V
+40V
TO WG MULTI PCB J2
OR NICAM PCB J2
P2
IDL 12V
GND
TR7
2SC2926S
4.1V
0.5V
R20
1K
R21
4.7K
R18
1/6W
10K
R17
10K
*R16
*R15
C6
0.1/50
(J)
C5
0.1/50
(J)
*C4
*C3
R19
1/6W
22K (F)
TR12
2SA1317
32.8V
38.3V
R37
1/6W 75
JS7
EXCEPT
EA.EK.EOG-V
IC2
LA5631
C7
10/35
37.6V
D6
1SS131
D7
1SS131
R22
1/6W
33K

*	EA	EK	EOH (E)	EOH (V)	EO	EOG-V
TU1	TERS1-002A E59-14-009	TERB1-008A E59-14-015	TERE3-001B E59-14-018	TERE3-003A E59-14-020	TERE3-001B E59-14-018	TERE1-007A E59-14-013
IF1	E59-12-044	E59-12-045	E59-12-046	E59-12-047	E59-12-048	E59-12-047
MD1	YAA21-0453 E59-11-013	MDLK6B063B E59-11-018	MDLK6D063B E59-11-016	→	→	→

*	EA	EK	EOH (E)	EOH (V)	EO	EOG-V
C3, 4	0.047	0.047	0.1	0.1	0.1	0.082
R15	47K	47K	22K	22K	22K	27K
R16	22K	22K	10K	10K	10K	12K
R35		3.9K			3.9K	
R36	330	3.9K	330	330	3.9K	330

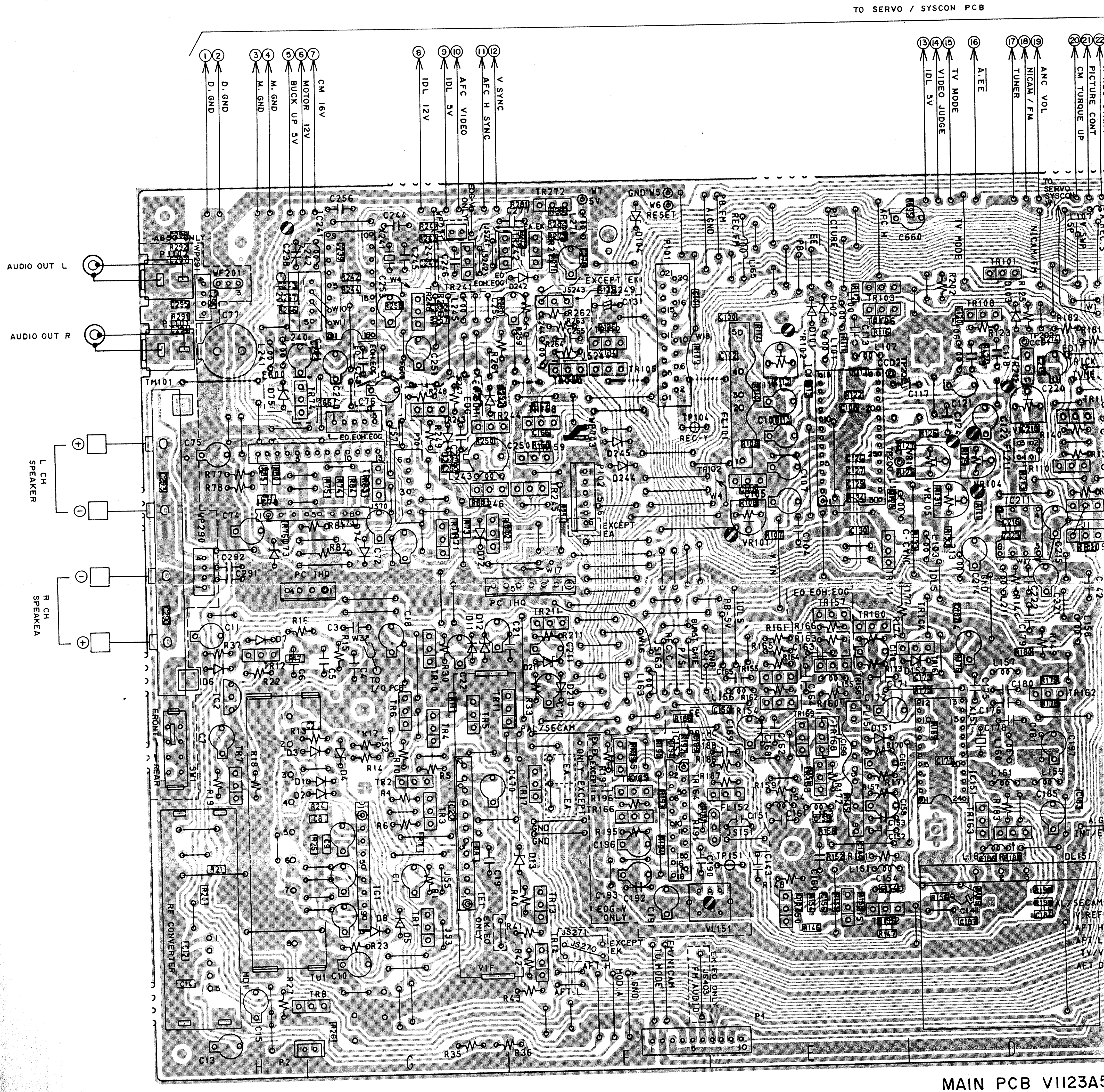
▬	B (POWER SUPPLY) LINE
▬	VIDEO IN (REC, E-E) SIGNAL LINE
‐ ‐ ‐	VIDEO OUT (PB, E-E) SIGNAL LINE
▬	AUDIO IN (REC, E-E) SIGNAL LINE
‐ ‐ ‐	AUDIO OUT (PB, E-E) SIGNAL LINE


*TU1
U
TU V
VH
AGC
VL
AFT
+B
IF
*IF1
EOG-V ONLY
AGC V
AGC U
IF
GND
RF AGC
AFT
VPT V
Vcc
VIDEO OUT
GND
AUDIO OUT
P2
SIF OUT
GND
TO NICAM PCB J3
OR WG MULTI PCB J3
JS8
EK ONLY
*D5 1SS131
*D5 EOH (V) ONLY
*D1 1SS131
*D1, D2 EOH (V) EOG-V ONLY
*D2 1SS131
C47 2.2/50
EK, EO ONLY
EK.EO ONLY
JS12
JS3
EA, EK ONLY
159
C20 0.01 (N)
47/16
R13 910K
C2 0.001/50 (K)
R14 820K
D4 HZS9A1L
D3 1SS131
TR6 2SC3330
9.2V
5.1V
4.5V
R12 1/6W 10K
R10 1/6W 240K
R11 330K
TR4 2SK363GR
5.1V
6.2V
R1 1/6W 100K
9.0V
TR5 DTC124TS
0V
R2 470
R3 560
7.6V
7.0V
TR1 2SA1317
12.2V
C1 1/50
JS5
JS6
R4 1/6W 150K
R5 1/6W 10K
EA/EK/EOG-V ONLY
EOH (E) /EOH (V) /EO ONLY
9.2V
TR2 2SC3330
6.2V
5.6V
R6 1/6W 22K
TR3 2SA1317
5.6V
R7 390K
R8 330K
C17 47/16
R33 1/6W 5.6K
3.8V
TU VIDEO
TO MAIN PCB VIDEO BLK
3.2V
TR11 2SA1317
IC1 LA7910
UHF
VL
BAND B
BAND A
GND
Vcc2
Vh
Vhyp
Vcc1
0V
0V
4.3V
4.3V
14.0V
0V
12.2V
12.3V
*R15
*C3
JS11
JS7
EXCEPT EA.EK.EOG-V
EXCEPT EK
37
V 75
R23 1/6W 4.7K
D8 1SS131
C10 10/35
D7 1SS131
TR13 2SC3330
AFT-H
D13 HZS6A1L
R40 1/6W 2.2K
R41 1.2K
TR14 2SC3330
5.1V
AFT-L
R42 1/6W 6.8K
R43 1/6W 1.6K
AFT-D
TO MAIN PCB AUDIO BLK
C8 0.01 (M)
R24 47K
R25 47K
C9 0.01 (N)
BAND A
BAND B

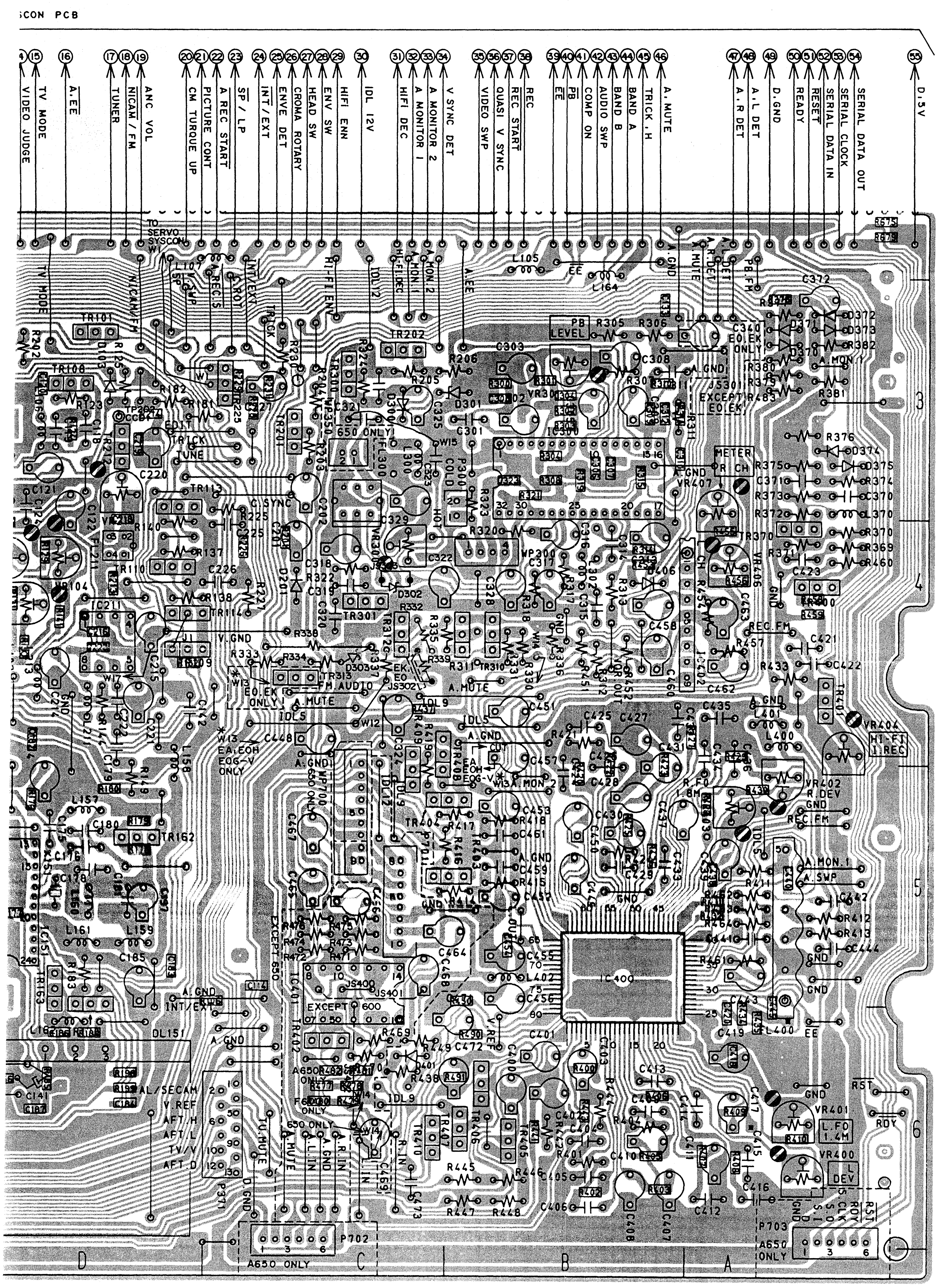
MAIN PCB 3/3 (RF BLOCK) V1123A500A

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)
ALL CAPACITORS IN μF 16 WV (M)

VS-F600/A650
EA·EK·EO·EOH·EOG-V
MAIN 3/3 (RF BLK)
SCHEMATIC DIAGRAM
NO.19-6 V112306M


TO SERVO / SYSCON PCB
① D.GND
② D.GND
③ M.GND
④ M.GND
⑤ BUCK UP 5V
⑥ MOTOR 12V
⑦ CM 16V
⑧ IDL 12V
⑨ IDL 5V
⑩ AFC VIDEO
⑪ AFC H SYNC
⑫ V SYNC
⑬ IDL 5V
⑭ VIDEO JUDGE
⑮ TV MODE
⑯ A.EE
⑰ TUNER
⑱ NICAM / FM
⑲ ANC VOL
⑳ CM TURQUE UP
㉑ PICTURE CONT
AUDIO OUT L
AUDIO OUT R
L CH SPEAKER
R CH SPEAKEA
RF CONVERTER
FRONT
REAR
TO I/O PCB
PC IHQ
EO.EOH.EOG
EXCEPT EA
EXCEPT EK
EX.EO ONLY
EOG-V ONLY
VIF
AFT L
AFT H
MOD.A
A.GND
TU.MODE
EM/NICAM
FM/AUDIO
AL/SECAM
V.REF
GND W5
W6 RESET
W7 5V
REC-Y
PB.FM
REC/FM
PICTURE
AFC H
TV MODE
NICAM/FM
C-CYNC
V IN
IDL5
PB-5V
BURST GATE
P/S
REC.C
TRICK
EDIT
TO SERVO SYSCON
P1
P2
H
G
F
E
D

MAIN PCB VI123A5


CON PCB
⑭ VIDEO JUDGE
⑮ TV MODE
⑯ A.EE
⑰ TUNER
⑱ NICAM / FM
⑲ ANC VOL
⑳ CM TURQUE UP
㉑ PICTURE CONT
㉒ A REC START
㉓ SP / LP
㉔ INT / EXT
㉕ ENVE DET
㉖ CROMA ROTARY
㉗ HEAD SW
㉘ ENV SW
㉙ HIFI ENN
㉚ IDL 12V
㉛ HIFI DEC
㉜ A MONITOR 1
㉝ A MONITOR 2
㉞ V SYNC DET
㉟ VIDEO SWP
(36) QUASI V SYNC
(37) REC START
(38) REC
(39) EE
(40) PB
(41) COMP ON
(42) AUDIO SWP
(43) BAND B
(44) BAND A
(45) TRICK .H
(46) A. MUTE
(47) A.R DET
(48) A.L DET
(49) D.GND
(50) READY
(51) RESET
(52) SERIAL DATA IN
(53) SERIAL CLOCK
(54) SERIAL DATA OUT
(55) D.5V
TO SERVO SYSCON W1
IC400
P702
A650 ONLY
P703
D
C
B
A
3
4
5
6

MAIN PCB V1123A500A

PRINCIPAL PARTS LOCATION

ICS

IC1	G5,6
IC70	G,H4
IC101	E3,4
IC151	D5
IC152	F5,6
IC221	D4
IC241	G3
IC300	B3
IC400	B5,6
IC401	C5,6
IC402	A,B4

WP

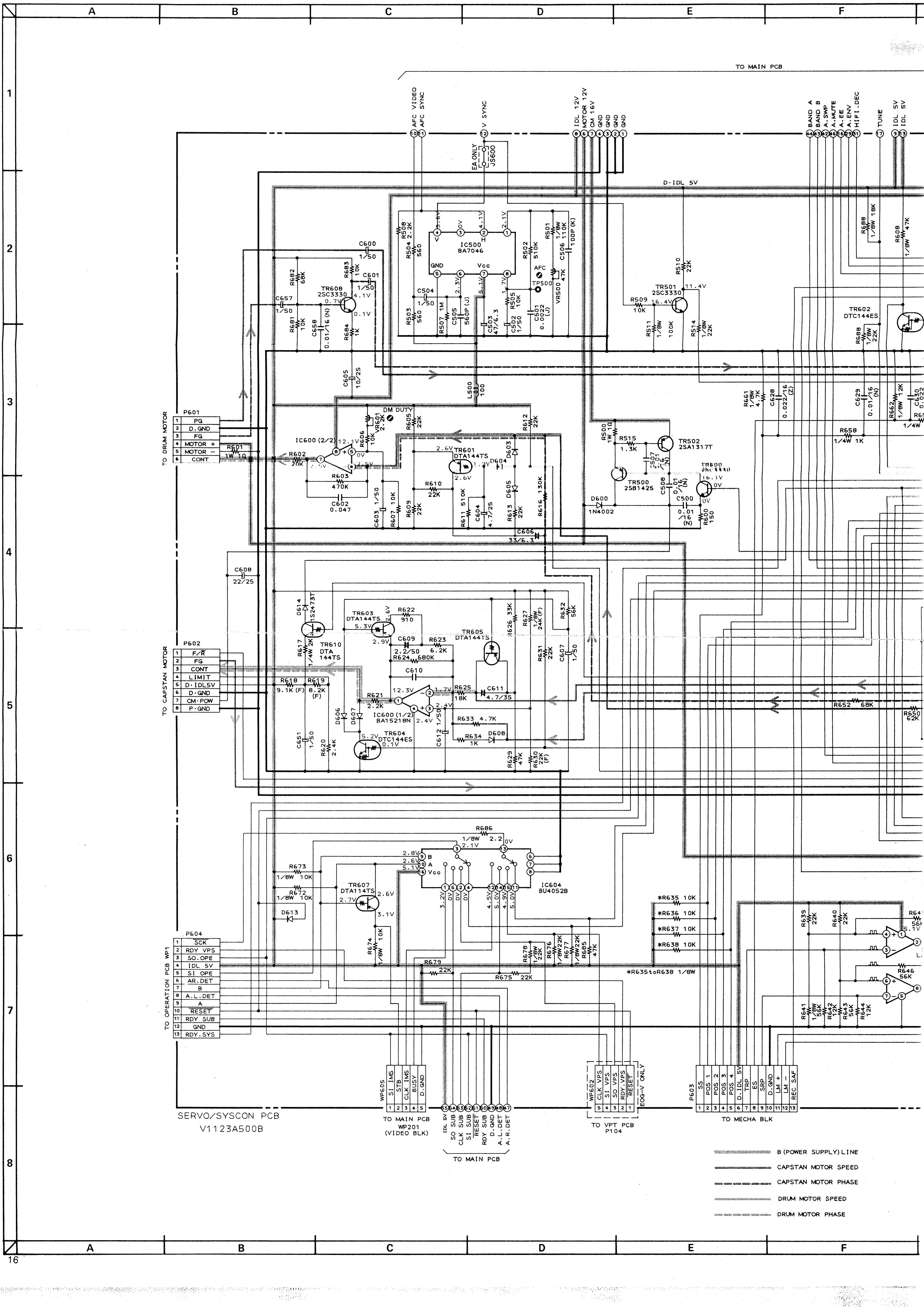
WP71	G,H4
WP72	G3
WP271	G3
WP290	H4
WP291	H3
WP300	B4
WP350	C3

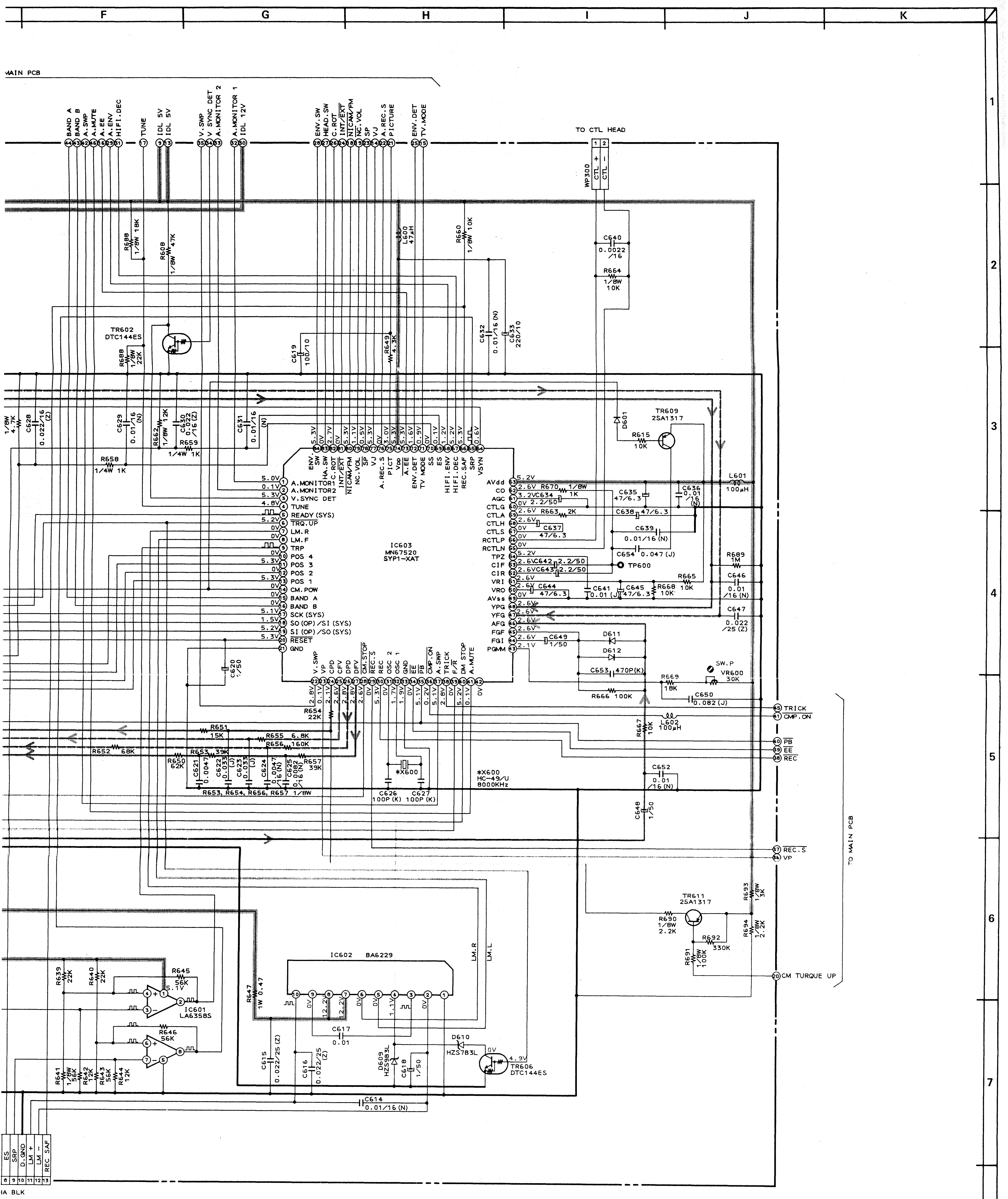
CONNECTORS

P1	E,F6
P2	G,H6
P70	G4
P101	F3
P102	F4
P201	G,H3
P300	B,C3,4
P371	C6
P700	C5
P701	C5
P702	C6
P703	A6

TRANSISTORS

TR1	G6
TR2	G5
TR3	G5
TR4	G5
TR5	G5
TR6	G5
TR7	H5
TR8	G,H6
TR10	G4,5
TR11	F5
TR12	H5
TR13	F6
TR14	F6
TR17	F5
TR71	G4
TR72	G4
TR73	G4
TR74	G4
Tr101	D3
TR102	E4
TR103	D,E3
TR105	F3
TR106	D,E3
TR108	D3
TR109	D4
TR110	D4
TR111	E4
TR112	F3
TR113	D3
TR114	D4
TR150	E6
TR151	E6
TR152	E6
TR153	E5
TR154	E5
TR155	E5
TR156	E5
TR157	E4
TR158	F3
TR159	F4
TR160	E4
TR161	D,E5
TR162	D5
TR163	D5,6
TR164	E5
TR165	F5
TR166	F5
TR167	F5
TR168	E5
TR169	E5
TR170	D5,6
TR201	C3
TR202	C3
TR211	F4
TR212	D3
TR225	C3
TR241	G3
TR242	F3
TR243	G3
TR244	F,G3
TR245	F4
TR246	F,G4
TR248	G3
TR249	F3
TR250	F3
TR271	F3
TR272	F3
TR300	C3
TR301	C4
TR310	B4
TR311	B4
TR312	C4
TR313	C4
TR370	A4
TR400	A4
TR401	A4
TR402	C6
TR403	B,C6
TR404	B,C5
TR405	B6
TR407	B6
TR408	B,C4,5
TR409	C4,5
TR410	C6


A
B
C
D
E
F
1
2
3
4
5
6
7
8
TO MAIN PCB
AFC VIDEO
AFC SYNC
V SYNC
EA ONLY
JS600
IDL 12V
MOTOR 12V
CM 16V
GND
GND
GND
GND
BAND A
BAND B
A.SWP
A.MUTE
A.EE
A.ENV
HIFI.DEC
TUNE
IDL 5V
IDL 5V
D·IDL 5V
IC500
BA7046
GND
Vcc
AFC
TP500
VR500 47K
TR501 2SC3330
TR502 2SA1317T
TR500 2SB1425
TR600
TR602 DTC144ES
TR608 2SC3330
TR601 DTA144TS
TR603 DTA144TS
TR605 DTA144TS
TR604 DTC144ES
TR610 DTA 144TS
TR607 DTA114TS
IC600 (2/2)
IC600 (1/2) BA15218N
IC604 BU4052B
DM DUTY
VR601 2.2K
L500 100
D600 1N4002
D603
D604
D605
D606
D607
D608
D613
D614 1S2473T
TO DRUM MOTOR
P601
1 PG
2 D.GND
3 FG
4 MOTOR +
5 MOTOR −
6 CONT
R601 1W 10
TO CAPSTAN MOTOR
P602
1 F/R̄
2 FG
3 CONT
4 LIMIT
5 D·IDL5V
6 D·GND
7 CM·POW
8 P·GND
TO OPERATION PCB WP1
P604
1 SCK
2 RDY VPS
3 SO.OPE
4 IDL 5V
5 SI OPE
6 AR.DET
7 B
8 A.L.DET
9 A
10 RESET
11 RDY SUB
12 GND
13 RDY.SYS
WP605
SI IMS
STB
CLK IMS
BUSY
D.GND
TO MAIN PCB
WP201
(VIDEO BLK)
IDL 5V
SO SUB
CLK SUB
SI SUB
RESET
RDY SUB
D.GND
A.L.DET
A.R.DET
WP602
CLK VPS
SI VPS
SO VPS
RDY.VPS
RESET
EOG-V ONLY
TO VPT PCB
P104
P603
SS
POS 1
POS 2
POS 3
POS 4
D.IDL 5V
TRP
ES
SRP
D.GND
LM +
LM −
REC SAF
TO MECHA BLK
*R635 10K
*R636 10K
*R637 10K
*R638 10K
*R635toR638 1/8W
SERVO/SYSCON PCB
V1123A500B
B (POWER SUPPLY) LINE
CAPSTAN MOTOR SPEED
CAPSTAN MOTOR PHASE
DRUM MOTOR SPEED
DRUM MOTOR PHASE


F
G
H
I
J
K
1
2
3
4
5
6
7
8
MAIN PCB
BAND A
BAND B
A.SWP
A.MUTE
A.EE
A.ENV
HIFI.DEC
TUNE
IDL 5V
IDL 5V
V.SWP
V SYNC DET
A.MONITOR 2
A.MONITOR 1
IDL 12V
ENV.SW
HEAD.SW
C.ROT
INT/EXT
NICAM/FM
NC.VOL
SP
VJ
A.REC.S
PICTURE
ENV.DET
TV.MODE
TO CTL HEAD
WP300
CTL +
CTL -
C640 0.0022/16
R664 1/8W 10K
R688 1/8W 18K
R608 1/8W 47K
L600 47μH
R660 1/8W 10K
TR602 DTC144ES
R688 1/8W 22K
C619 100/10
R649 4.3K
C632 0.01/16 (N)
C633 220/10
C628 0.022/16 (Z)
C629 0.01/16 (N)
R662 1/8W 12K
C630 0.022/16 (Z)
R659 1/4W 1K
C631 0.01/16 (N)
R658 1/4W 1K
D601
TR609 2SA1317
R615 10K
L601 100μH
IC603 MN67520 SYP1-XAT
A.MONITOR1
A.MONITOR2
V.SYNC DET
TUNE
READY (SYS)
TRQ.UP
LM.R
LM.F
TRP
POS 4
POS 3
POS 2
POS 1
CM.POW
BAND A
BAND B
SCK (SYS)
SO (OP) /SI (SYS)
SI (OP) /SO (SYS)
RESET
GND
AVdd
CO
AGC
CTLG
CTLA
CTLH
CTLS
RCTLP
RCTLN
TPZ
CIF
CIR
VRI
VRO
AVss
YPG
YFG
AFG
FGF
FGI
PGMM
R670 1/8W 1K
C634 2.2/50
R663 2K
C637 47/6.3
C635 47/6.3
C636 0.01/16 (N)
C638 47/6.3
C639 0.01/16 (N)
C654 0.047 (J)
C642 2.2/50
C643 2.2/50
TP600
R689 1M
R665 10K
C646 0.01/16 (N)
C644 47/6.3
C641 0.01 (J)
C645 47/6.3
R668 10K
C647 0.022/25 (Z)
C649 1/50
D611
D612
C653 470P(K)
SW.P
VR600 30K
R669 18K
R666 100K
C650 0.082 (J)
C620 1/50
R654 22K
R651 15K
R655 6.8K
R656 160K
R652 68K
R653 39K
R657 39K
R650 62K
C621 0.0047
C622 0.033 (J)
C623 0.033 (J)
C624 0.0047 (N)
C625 0.082 (J)
R653, R654, R656, R657 1/8W
*X600
*X600 HC-49/U 8000KHz
C626 100P (K)
C627 100P (K)
R667 10K
L602 100μH
C652 0.01/16 (N)
C648 1/50
TRICK
CMP.ON
PB
EE
REC
REC.S
VP
TO MAIN PCB
TR611 2SA1317
R690 1/8W 2.2K
R691 1/8W 100K
R692 330K
R693 1/8W 3K
R694 1/8W 2.2K
CM TURQUE UP
IC602 BA6229
LM.R
LM.L
R647 1W 0.47
C617 0.01
C615 0.022/25 (Z)
C616 0.022/25 (Z)
D609 HZS9B3L
C618 1/50
D610 HZS7B3L
TR606 DTC144ES
C614 0.01/16 (N)
R639 22K
R640 22K
R645 56K
IC601 LA6358S
R646 56K
R641 1/8W 56K
R642 12K
R643 56K
R644 12K
ES
SRP
D.GND
LM +
LM -
REC SAF
IA BLK

- ▬ B (POWER SUPPLY) LINE
- ▬ CAPSTAN MOTOR SPEED
- ▬ CAPSTAN MOTOR PHASE
- ▬ DRUM MOTOR SPEED
- ▬ DRUM MOTOR PHASE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μF 50WV (M)
ALL DIODES ARE 1SS131T

INDICATED VOLTAGES ARE MEASURED IN PB (SP) MODE

VS-F600/A650
EA·EK·EO·EOH·EOG-V
SERVO/SYSCON
SCHEMATIC DIAGRAM
NO.19-7 V112307M

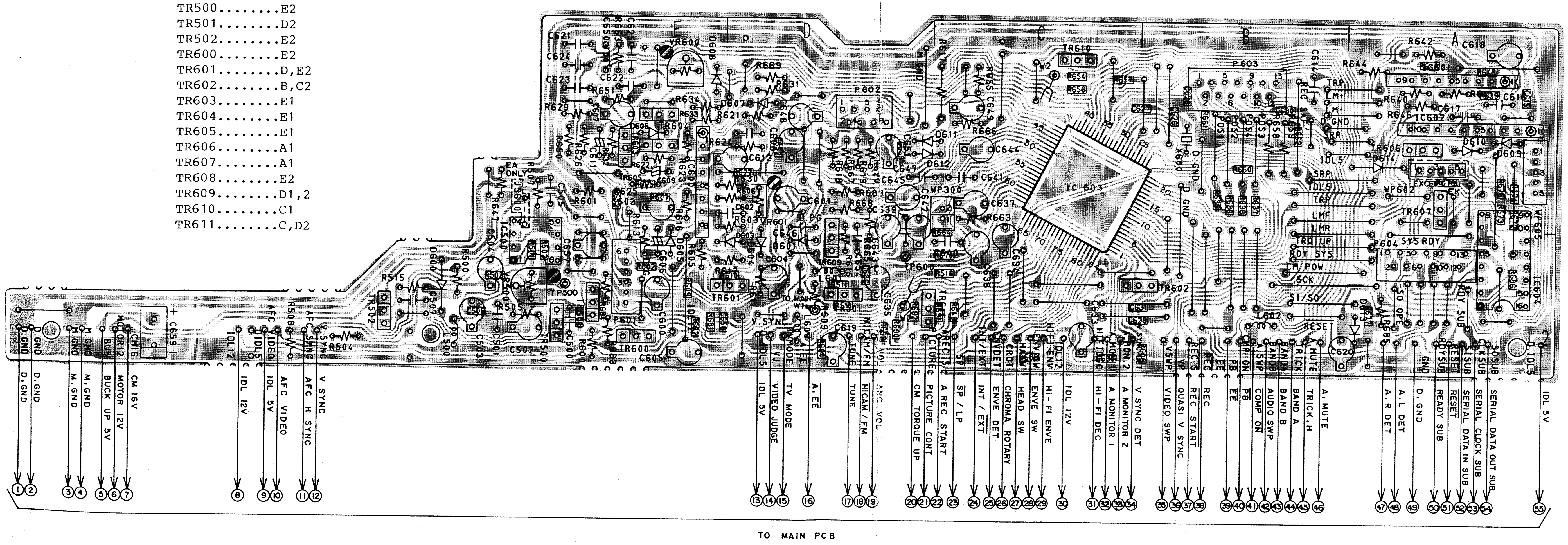
PRINCIPAL PARTS LOCATION

ICS
IC500........E1,2
IC600........E1,2
IC601........A1
IC602........A1
IC603........B,C1,2
IC604........A1,2

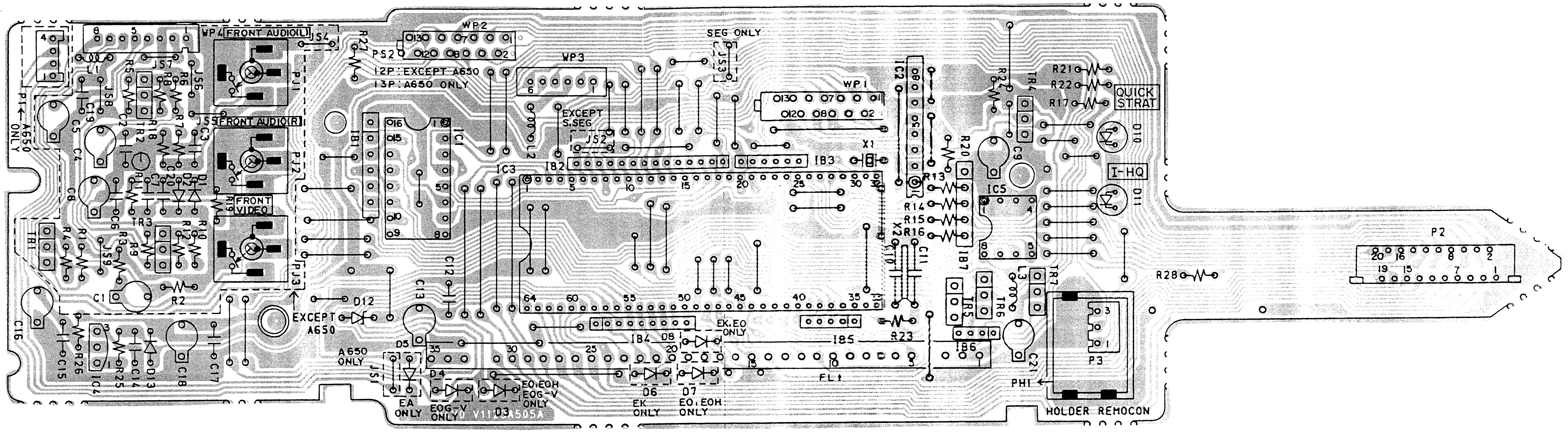
WP
WP602........A1
WP605........A1

CONNECTORS
P601.........E2
P602.........D1
P603.........B1
P604.........A2

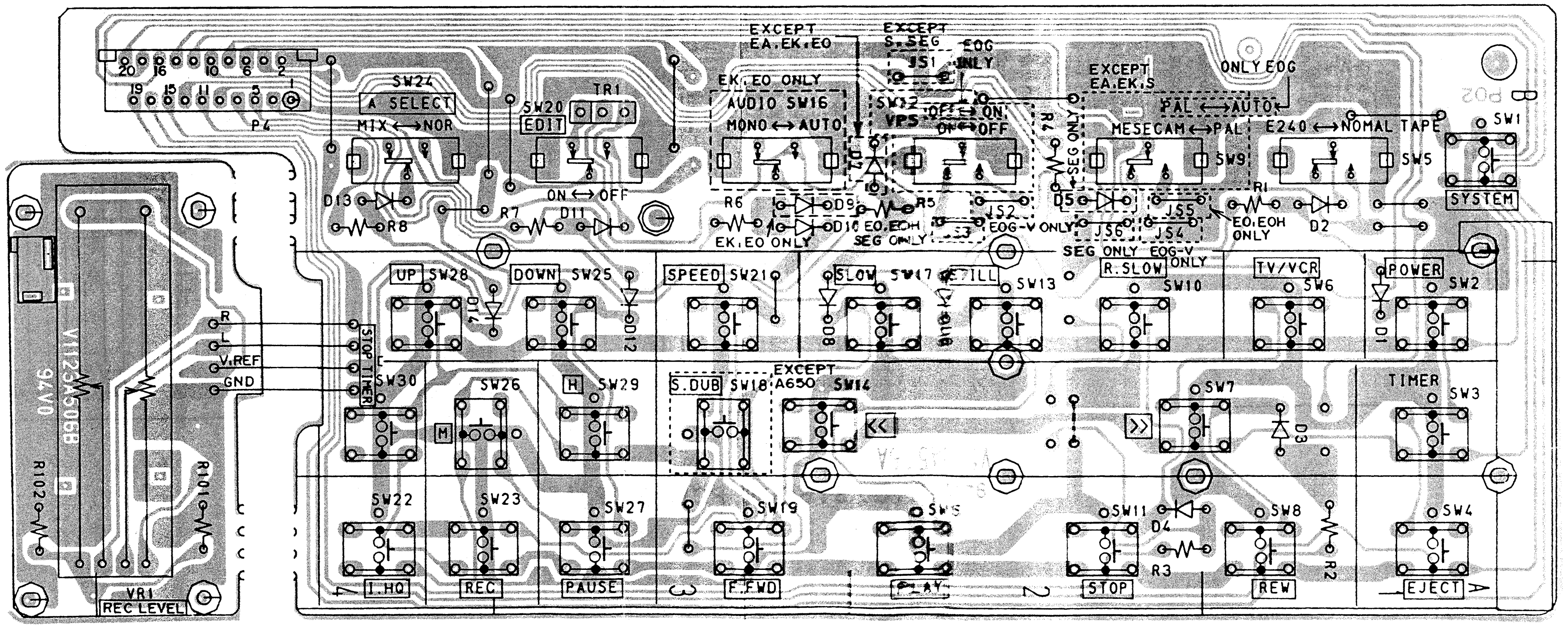
TRANSISTORS
TR500........E2
TR501........D2
TR502........E2
TR600........E2
TR601........D,E2
TR602........B,C2
TR603........E1
TR604........E1
TR605........E1
TR606........A1
TR607........A1
TR608........E2
TR609........D1,2
TR610........C1
TR611........C,D2


A
B
C
D
E
IC603
IC604
IC602
IC500
P603
P602
P601
WP605
WP602
WP300
TR602
TR610
TR601
TR600
TR502
TR500
X600
VR600
VR500
TP500
TP600
C659
D.GND
M.GND
D.IDL5
D.GND
D.GND
M.GND
M.GND
BUCK UP 5V
MOTOR 12V
CM 16V
IDL 12V
IDL 5V
AFC VIDEO
AFC H SYNC
V SYNC
IDL 5V
VIDEO JUDGE
TV MODE
A.EE
TUNE
NICAM / FM
ANC VOL
CM TORQUE UP
PICTURE CONT
A REC START
SP / LP
INT / EXT
ENVE DET
CHROMA ROTARY
HEAD SW
ENVE SW
HI-FI ENVE
IDL 12V
HI-FI DEC
A MONITOR 1
A MONITOR 2
V SYNC DET
VIDEO SWP
QUASI V SYNC
REC START
REC
EE
PB
COMP ON
AUDIO SWP
BAND B
BAND A
TRICK.H
A.MUTE
A.R DET
A.L DET
D.GND
READY SUB
RESET
SERIAL DATA IN SUB
SERIAL CLOCK SUB
SERIAL DATA OUT SUB
IDL 5V
①②
③④
⑤⑥⑦
⑧
⑨⑩
⑪⑫
⑬⑭⑮
⑯
⑰⑱⑲
⑳㉑㉒
㉓
㉔㉕㉖㉗㉘㉙
㉚
㉛㉜㉝㉞
㉟㊱㊲㊳
㊴㊵㊶㊷㊸㊹㊺㊻
㊼㊽
㊾
㊿(51)(52)(53)(54)
(55)
TO MAIN PCB

SERVO / SYSCON PCB V1123A500B

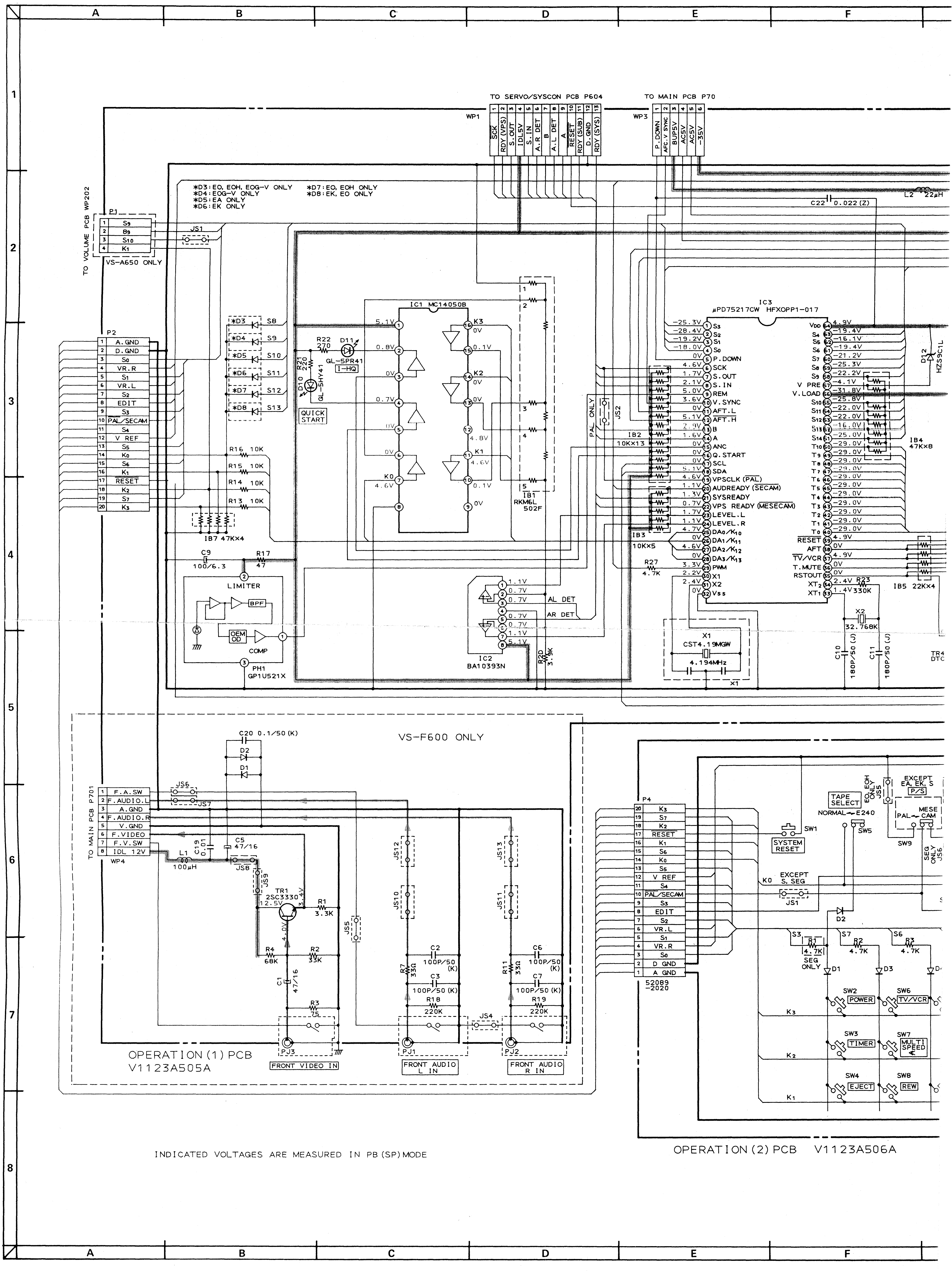

FRONT AUDIO(L)
FRONT AUDIO(R)
FRONT VIDEO
PJ1
PJ2
PJ3
WP2
WP3
WP4
WP1
PS2
12P : EXCEPT A650
13P : A650 ONLY
SEG ONLY
EXCEPT S.SEG
IC1
IC2
IC3
IC4
IC5
IB1
IB2
IB3
IB4
IB5
IB6
IB7
FL1
P1 ← A650 ONLY
P2
P3
PH1
HOLDER REMOCON
QUICK STRAT
I-HQ
EXCEPT A650
A650 ONLY
EA ONLY
EOG-V ONLY
EO,EOH EOG-V ONLY
EK ONLY
EO,EOH ONLY
EK,EO ONLY
V1123A505A

OPERATION (1) PCB V1123A505A


SYSTEM
POWER
TIMER
EJECT
TV/VCR
REW
R.SLOW
STOP
PLAY
F.FWD
SLOW
STILL
SPEED
S.DUB
PAUSE
REC
I.HQ
DOWN
UP
EDIT
A SELECT
MIX ⟷ NOR
ON ⟷ OFF
AUDIO SW16
MONO ⟷ AUTO
VPS
OFF ⟷ ON
ON ⟷ OFF
MESECAM ⟷ PAL
PAL ⟷ AUTO
E240 ⟷ NOMAL TAPE
EXCEPT EA,EK,EO
EXCEPT S.SEG
EOG ONLY
EK,EO ONLY
EXCEPT EA,EK,S
ONLY EOG
SEG ONLY
EOG-V ONLY
EO,EOH ONLY
EXCEPT A650
STOP TIMER
R
L
V.REF
GND
VR1
REC LEVEL
V1123A506B
94V0
P4
P02

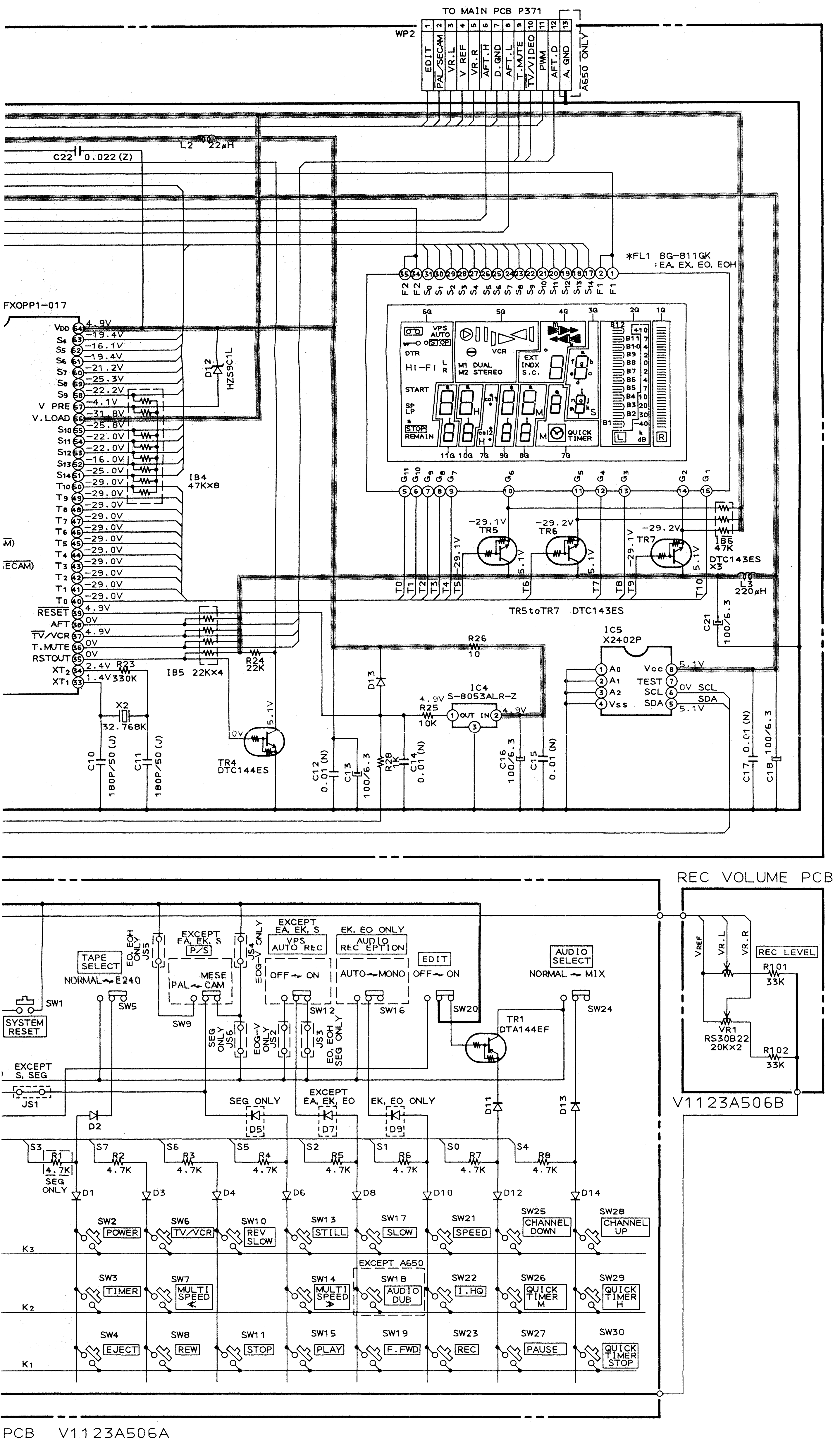
REC VOLUME PCB
V1123A506BJ1

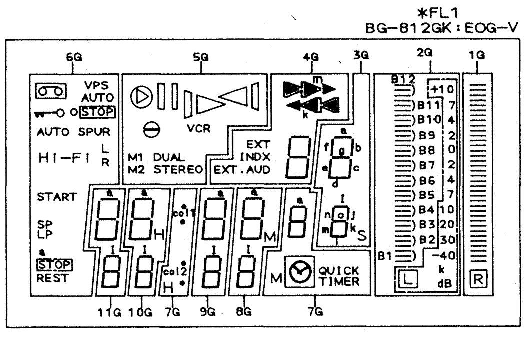
OPERATION (2) PCB V1123A506AJ1

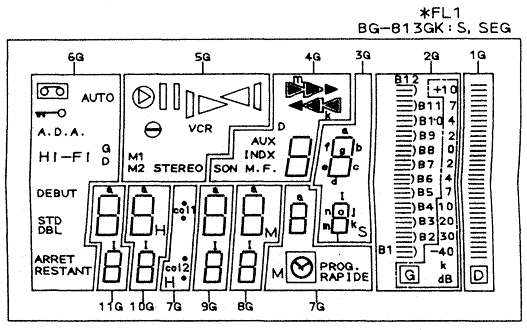

A
B
C
D
E
F
1
2
3
4
5
6
7
8
TO SERVO/SYSCON PCB P604
WP1
SCK
RDY (VPS)
S.OUT
IDL5V
S.IN
A.R DET
B
A.L DET
A
RESET
RDY (SUB)
D.GND
RDY (SYS)
TO MAIN PCB P70
WP3
P.DOWN
AFC.V SYNC
BUP5V
AC5V
AC5V
-35V
L2 22μH
C22 0.022 (Z)
TO VOLUME PCB WP202
P1
S9
B9
S10
K1
VS-A650 ONLY
JS1
P2
A.GND
D.GND
S0
VR.R
S1
VR.L
S2
EDIT
S3
PAL/SECAM
S4
V REF
S5
K0
S6
K1
RESET
K2
S7
K3
*D3
*D4
*D5
*D6
*D7
*D8
S8
S9
S10
S11
S12
S13
R16 10K
R15 10K
R14 10K
R13 10K
IB7 47K×4
C9 100/6.3
R17 47
LIMITER
BPF
OEM OD
COMP
PH1 GP1U521X
IC1 MC14050B
R22 270
D11
GL-5PR41
I-HQ
R21 220
D10
GL-5HY41
QUICK START
IB1 RKM6L 502F
IC2 BA10393N
AL DET
AR DET
R20 3.9K
PAL ONLY
JS2
IB2 10K×13
IB3 10K×5
R27 4.7K
IC3
μPD75217CW HFXOPP1-017
S3
S2
S1
S0
P.DOWN
SCK
S.OUT
S.IN
REM
V.SYNC
AFT.L
AFT.H
B
A
ANC
Q.START
SCL
SDA
VPSCLK (PAL)
AUDREADY (SECAM)
SYSREADY
VPS READY (MESECAM)
LEVEL.L
LEVEL.R
DA0/K10
DA1/K11
DA2/K12
DA3/K13
PWM
X1
X2
Vss
VDD
S4
S5
S6
S7
S8
V PRE
V.LOAD
S10
S11
S12
S13
S14
T10
T9
T8
T7
T6
T5
T4
T3
T2
T1
T0
RESET
AFT
TV/VCR
T.MUTE
RSTOUT
XT2
XT1
R23 330K
IB4 47K×8
IB5 22K×4
D12 HZS9C1L
X1 CST4.19MGW
4.194MHz
X2 32.768K
C10 180P/50 (J)
C11 180P/50 (J)
TR4 DTC
VS-F600 ONLY
C20 0.1/50 (K)
D2
D1
TO MAIN PCB P701
WP4
F.A.SW
F.AUDIO.L
A.GND
F.AUDIO.R
V.GND
F.VIDEO
F.V.SW
IDL 12V
JS6
JS7
C19 0.01
C5 47/16
L1 100μH
JS8
JS9
TR1 2SC3330
R1 3.3K
R4 68K
R2 33K
C1 47/16
R3 75
JS5
JS12
JS10
JS13
JS11
R7 33Ω
C2 100P/50 (K)
C3 100P/50 (K)
R18 220K
R11 33Ω
C6 100P/50 (K)
C7 100P/50 (K)
R19 220K
JS4
PJ3
PJ1
PJ2
FRONT VIDEO IN
FRONT AUDIO L IN
FRONT AUDIO R IN
OPERATION (1) PCB V1123A505A
P4
K3
S7
K2
RESET
K1
S6
K0
S5
V REF
S4
PAL/SECAM
S3
EDIT
S2
VR.L
S1
VR.R
S0
D GND
A GND
52089 -2020
SW1
SYSTEM RESET
TAPE SELECT
NORMAL→E240
SW5
EQ, EQH ONLY JS5
EXCEPT EA, EK, S
P/S
MESE
PAL→CAM
SW9
SEG ONLY JS6
K0
EXCEPT S. SEG
JS1
D2
S3
R1 4.7K
SEG ONLY
S7
R2 4.7K
S6
R3 4.7K
D1
D3
SW2
POWER
SW6
TV/VCR
K3
SW3
TIMER
SW7
MULTI SPEED
K2
SW4
EJECT
SW8
REW
K1
OPERATION (2) PCB V1123A506A

*D3: EQ, EOH, EOG-V ONLY
*D4: EOG-V ONLY
*D5: EA ONLY
*D6: EK ONLY
*D7: EQ, EOH ONLY
*D8: EK, EO ONLY

INDICATED VOLTAGES ARE MEASURED IN PB (SP) MODE


TO MAIN PCB P371
WP2
EDIT
PAL/SECAM
VR.L
V REF
VR.R
AFT.H
D.GND
AFT.L
T.MUTE
TV/VIDEO
PWM
AFT.D
A.GND
A650 ONLY
C22 0.022 (Z)
L2 22μH
*FL1 BG-811GK :EA, EX, EO, EOH
FXOPP1-017
VDD 4.9V
V PRE
V.LOAD
D12 HZS9C1L
IB4 47K×8
RESET
AFT
TV/VCR
T.MUTE
RSTOUT
XT2
XT1
R23 330K
IB5 22K×4
R24 22K
X2 32.768K
C10 180P/50 (J)
C11 180P/50 (J)
TR4 DTC144ES
TR5 TR6 TR7
TR5toTR7 DTC143ES
IB6 47K
DTC143ES X3
L3 220μH
C21 100/6.3
R26 10
IC4 S-8053ALR-Z
R25 10K
D13
C12 0.01 (N)
C13 100/6.3
R28 1K
C14 0.01 (N)
C16 100/6.3
C15 0.01 (N)
IC5 X2402P
A0 A1 A2 Vss Vcc TEST SCL SDA
C17 0.01 (N)
C18 100/6.3
REC VOLUME PCB
VREF VR.L VR.R
REC LEVEL
R101 33K
R102 33K
VR1 RS30B22 20K×2
V1123A506B
TAPE SELECT NORMAL E240
SYSTEM RESET SW1
SW5 SW9 SW12 SW16 SW20 SW24
EXCEPT EA, EK, S P/S
MESE PAL CAM
EXCEPT EA, EK, S VPS AUTO REC OFF ON
EK, EO ONLY AUDIO REC EPTION AUTO MONO
EDIT OFF ON
AUDIO SELECT NORMAL MIX
TR1 DTA144EF
EXCEPT S, SEG JS1
D2
SEG ONLY D5
EXCEPT EA, EK, EO D7
EK, EO ONLY D9
D11 D13
R1 4.7K SEG ONLY
R2 4.7K R3 4.7K R4 4.7K R5 4.7K R6 4.7K R7 4.7K R8 4.7K
D1 D3 D4 D6 D8 D10 D12 D14
SW2 POWER
SW6 TV/VCR
SW10 REV SLOW
SW13 STILL
SW17 SLOW
SW21 SPEED
SW25 CHANNEL DOWN
SW28 CHANNEL UP
SW3 TIMER
SW7 MULTI SPEED
SW14 MULTI SPEED
EXCEPT A650 SW18 AUDIO DUB
SW22 I.HQ
SW26 QUICK TIMER M
SW29 QUICK TIMER H
SW4 EJECT
SW8 REW
SW11 STOP
SW15 PLAY
SW19 F.FWD
SW23 REC
SW27 PAUSE
SW30 QUICK TIMER STOP
K3 K2 K1
PCB V1123A506A


*FL1
BG-812GK:EOG-V
VPS AUTO STOP
AUTO SPUR
HI-FI L R
VCR
M1 DUAL M2 STEREO
EXT INDX EXT.AUD
START
SP LP
STOP REST
QUICK TIMER
L R dB

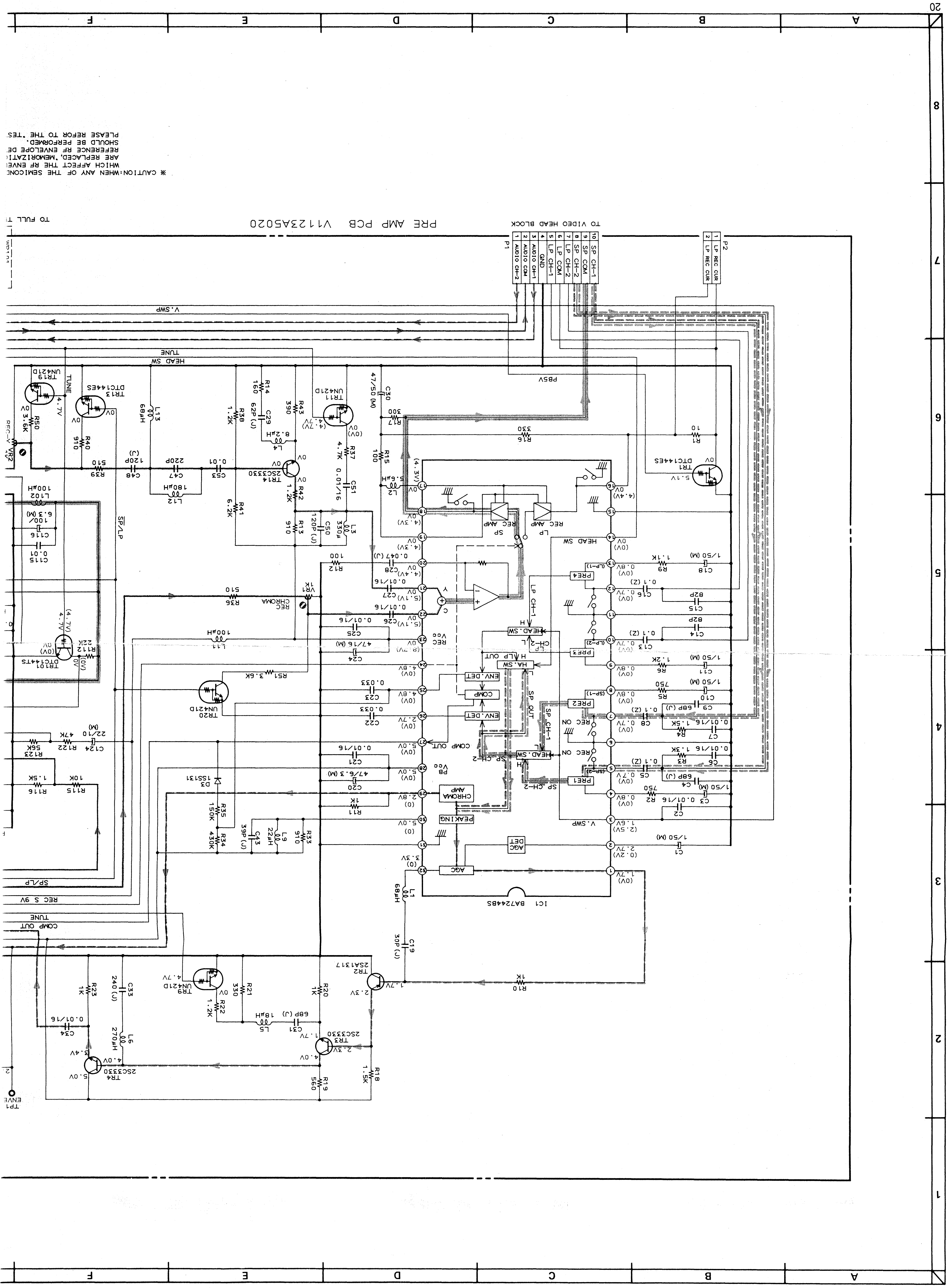

*FL1
BG-813GK:S, SEG
AUTO
A.D.A.
HI-FI G D
VCR
M1 M2 STEREO
AUX INDX SON M.F.
DEBUT
STD DBL
ARRET RESTANT
PROG. RAPIDE
G D dB

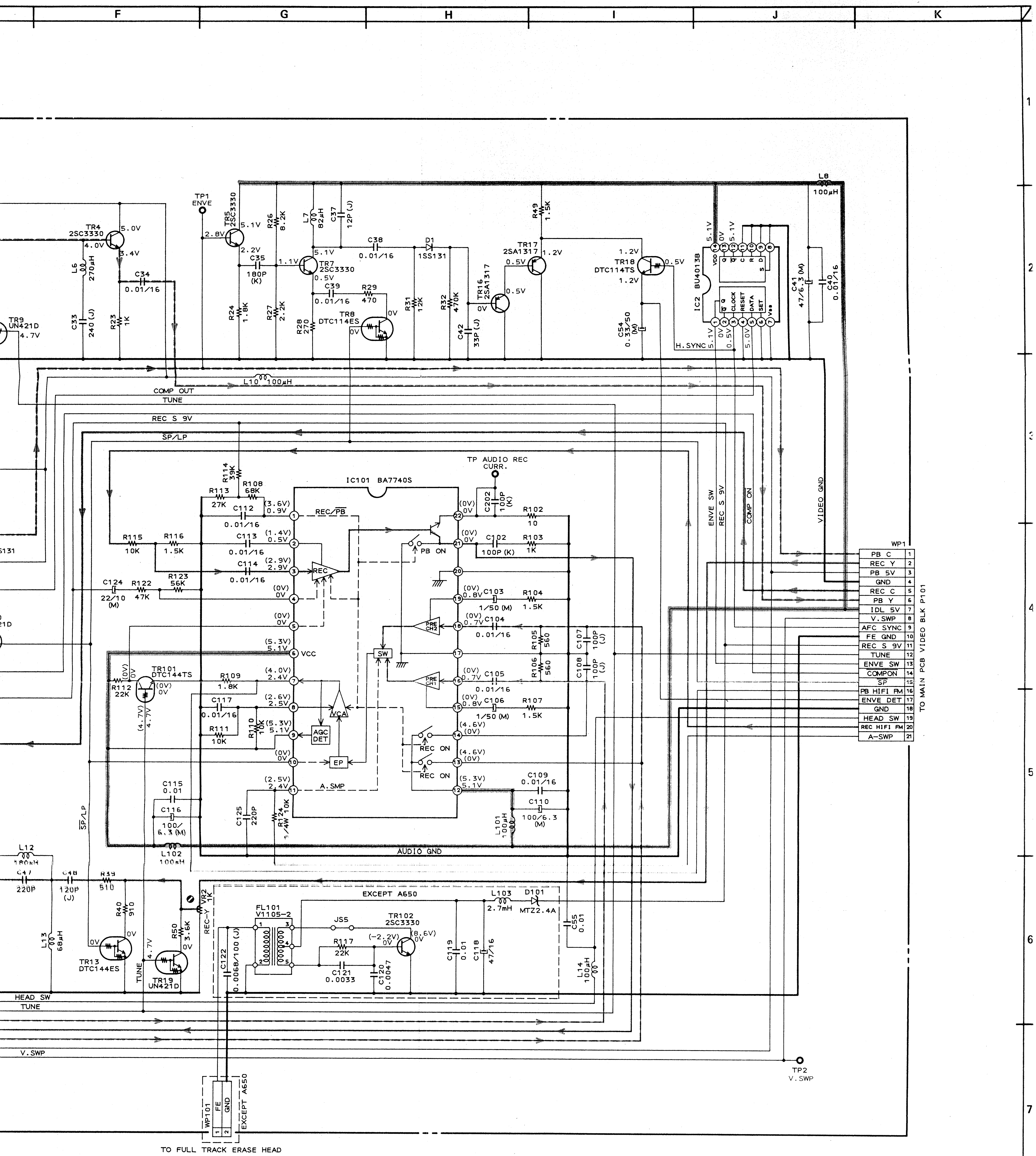
▬ :POWER SUPPLY LINE
▬ :VIDEO IN (REC) SIGNAL LINE
▬ :AUDIO SIGNAL LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μF 50WV (M)
ALL DIODES ARE 1SS131T

※CAUTION
WHEN THE IC5 IS REPLACED, "MEMORIZATION OF THE REFERENCE RF ENVELOPE DETECT VOLTAGE" SHOULD BE PERFORMED. PLEASE REFER TO THE "TEST MODE" SECTION.

VS-F600/A650
EA·EK·EO·EOH·EOG-V
OPERATION
SCHEMATIC DIAGRAM
NO.19-8 V112308M


PRE AMP PCB V1123A5020
TO VIDEO HEAD BLOCK
P1
1 AUDIO CH-2
2 AUDIO COM
3 AUDIO CH-1
4 GND
5 LP CH-1
6 LP COM
7 LP CH-2
8 SP CH-2
9 SP COM
10 SP CH-1
P2
1 LP REC CUR
2 LP REC CUR
IC1 BA7244BS
TR1 DTC144ES
TR2 2SA1317
TR3 2SC3330
TR4 2SC3330
TR9 UN421D
TR11 UN421D
TR13 DTC144ES
TR14 2SC3330
TR19 UN421D
TR20 UN421D
TR101 DTC144TS
V.SWP
HEAD SW
TUNE
PBSV
SP/LP
REC S 9V
COMP OUT
REC CHROMA
AGC
AGC DET
PEAKING
CHROMA AMP
ENV.DET
COMP
HA.SW
HEAD.SW
PRE1
PRE2
PRE3
PRE4
SP REC AMP
LP REC AMP
REC ON
TO FULL T
TP1 ENVE
※ CAUTION:WHEN ANY OF THE SEMICONE
WHICH AFFECT THE RF ENVE
ARE REPLACED, MEMORIZATI
REFERENCE RF ENVELOPE DE
SHOULD BE PERFORMED.
PLEASE REFER TO THE 'TES
A B C D E F
1 2 3 4 5 6 7 8


F
G
H
I
J
K
1
2
3
4
5
6
7
TR4 2SC3330
L6 270µH
C33 240 (J)
R23 1K
C34 0.01/16
TR9 UN421D
TP1 ENVE
TR5 2SC3330
R26 8.2K
L7 82µH
C37 12P (J)
C35 180P (K)
R24 1.8K
R27 2.2K
TR7 2SC3330
C38 0.01/16
D1 1SS131
C39 0.01/16
R29 470
TR8 DTC114ES
R28 270
R31 12K
R32 470K
C42 33P (J)
TR16 2SA1317
R49 1.5K
TR17 2SA1317
TR18 DTC114TS
C54 0.33/50
IC2 BU4013B
H.SYNC
L8 100µH
C41 47/6.3 (M)
C40 0.01/16
L10 100µH
COMP OUT
TUNE
REC S 9V
SP/LP
TP AUDIO REC CURR.
IC101 BA7740S
R114 39K
R113 27K
R108 68K
C112 0.01/16
REC/PB
C202 100P (K)
R102 10
R115 10K
R116 1.5K
C113 0.01/16
C114 0.01/16
PB ON
C102 100P (K)
R103 1K
C124 22/10 (M)
R122 47K
R123 56K
REC
C103 1/50 (M)
R104 1.5K
PRE CH2
C104 0.01/16
R105 560
C107 100P (J)
VCC
SW
TR101 DTC144TS
R112 22K
R109 1.8K
PRE CH1
C105 0.01/16
R106 560
C108 100P (J)
C117 0.01/16
VCA
C106 1/50 (M)
R107 1.5K
R111 10K
R110 10K
AGC DET
REC ON
EP
C115 0.01
C116 100/6.3 (M)
A.SMP
C109 0.01/16
C125 220P
R124 10K 1/4W
C110 100/6.3 (M)
L101 100µH
L102 100nH
AUDIO GND
L12 180nH
C47 220P
C48 120P (J)
R39 510
R40 910
VR2 1K
REC-Y
R50 3.6K
TR13 DTC144ES
TR19 UN421D
L13 68µH
EXCEPT A650
FL101 V1105-2
JS5
TR102 2SC3330
R117 22K
C121 0.0033
C120 0.0047
C122 0.0068/100 (J)
L103 2.7mH
D101 MTZ2.4A
C119 0.01
C118 47/16
C55 0.01
L14 100µH
HEAD SW
TUNE
V.SWP
TP2 V.SWP
WP101
FE
GND
EXCEPT A650
TO FULL TRACK ERASE HEAD
ENVE SW
REC S 9V
COMP ON
VIDEO GND
WP1
1 PB C
2 REC Y
3 PB 5V
4 GND
5 REC C
6 PB Y
7 IDL 5V
8 V.SWP
9 AFC SYNC
10 FE GND
11 REC S 9V
12 TUNE
13 ENVE SW
14 COMPON
15 SP
16 PB HIFI FM
17 ENVE DET
18 GND
19 HEAD SW
20 REC HIFI FM
21 A-SWP
TO MAIN PCB VIDEO BLK P101

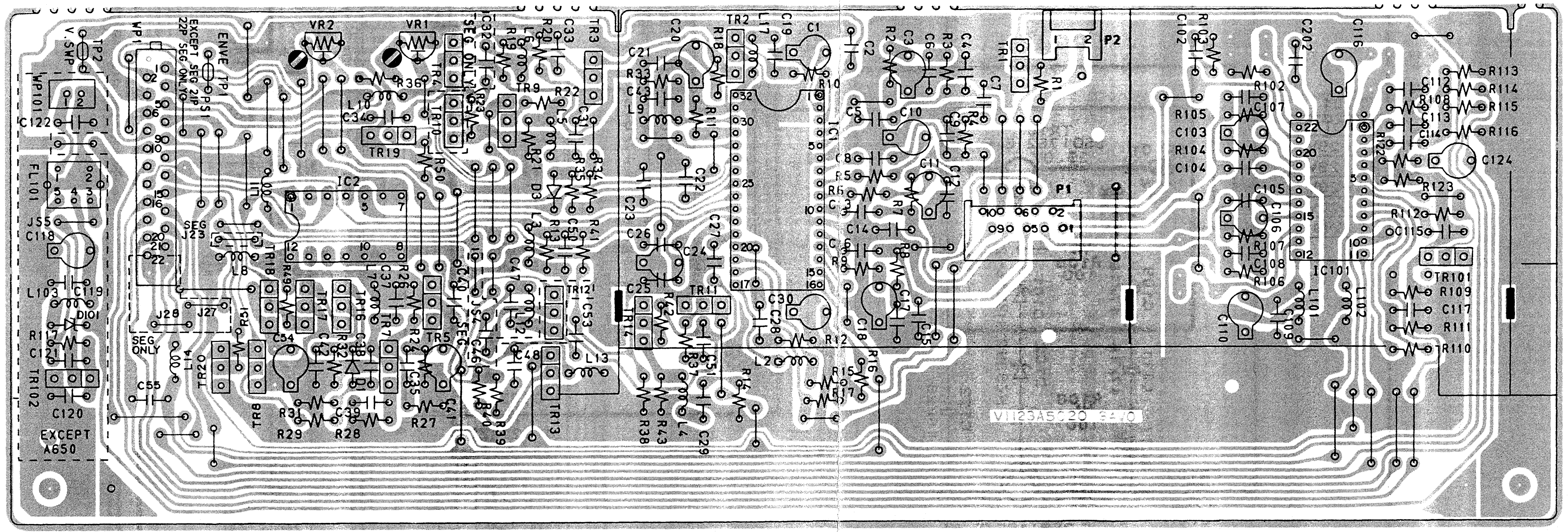
▨ :POWER SUPPLY LINE
:REC AUDIO SIGNAL LINE
:PB AUDIO SIGNAL LINE
:REC Y SIGNAL LINE
:PB Y SIGNAL LINE
:REC CHROMA SIGNAL LINE
:PB CHROMA SIGNAL LINE

INDICATED VOLTAGES ARE MEASURED IN PB MODE (SP)
(   ) REC MODE

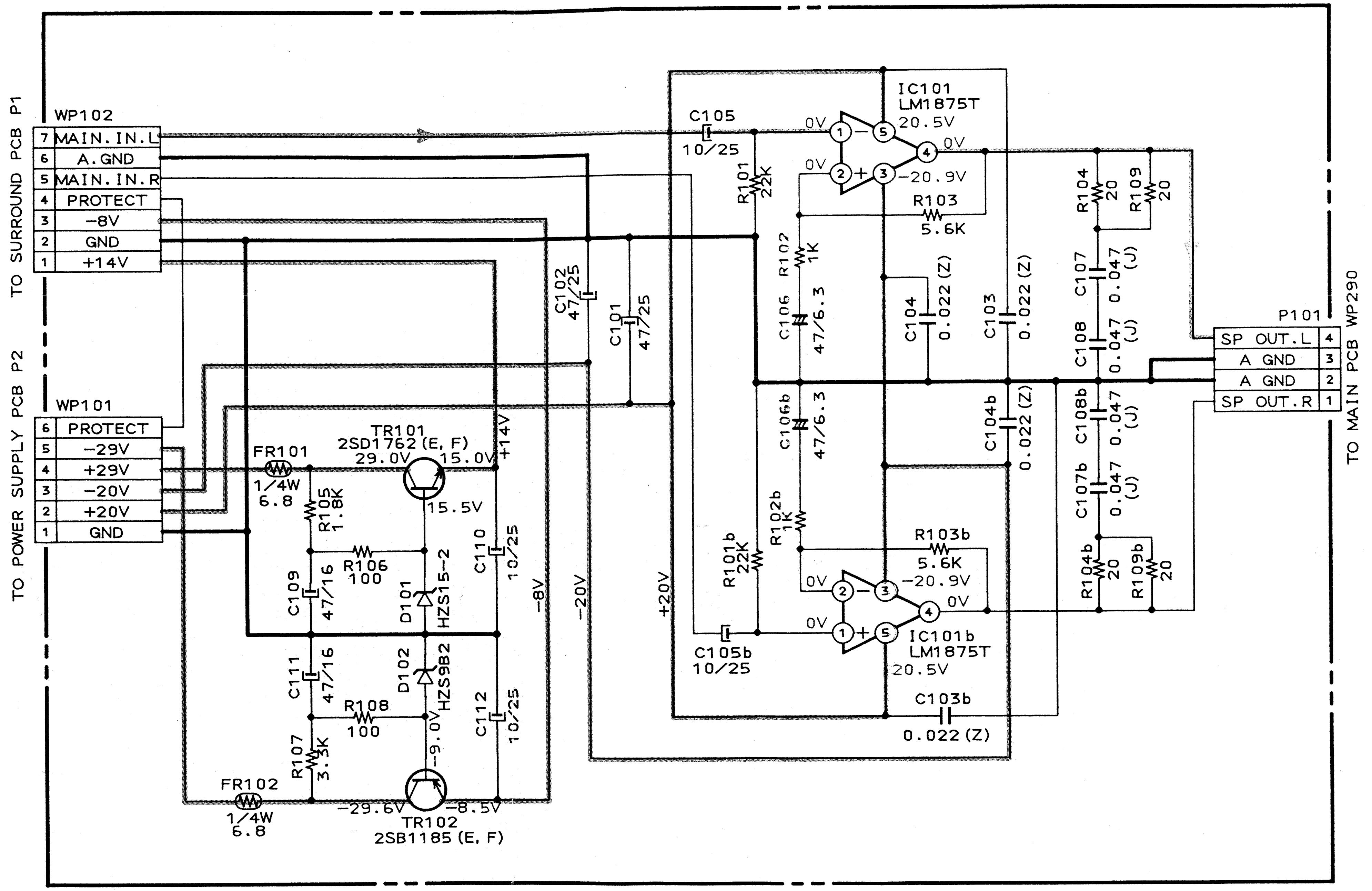
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN µF 50WV (N)

※ CAUTION: WHEN ANY OF THE SEMICONDUCTORS
WHICH AFFECT THE RF ENVELOPE LEVEL
ARE REPLACED, "MEMORIZATION OF THE
REFERENCE RF ENVELOPE DETECT VOLTAGE"
SHOULD BE PERFORMED.
PLEASE REFOR TO THE "TEST MODE" SECTION.

VS-F600/A650
EA·EK·EO·EOH·EOG-V
PRE AMP
SCHEMATIC DIAGRAM
NO.19-9 V112309M


WP101
TP2
V.SWP
C122
FL101
JS5
C118
L103
C119
D101
C121
TR102
C120
EXCEPT A650
WP1
EXCEPT SEG 21P
22P SEG ONLY
ENVE TP1
PS1
SEG J23
J28
J27
SEG ONLY
L14
C55
TR20
TR8
R51
VR2
VR1
R36
L10
C34
TR19
TR4
TR10
SEG ONLY
R23
C32
R19
L6
R20
C33
TR3
TR9
R22
L5
R21
D3
R34
R35
C31
C50
R41
R13
L3
IC2
TR18
R49
L8
C54
TR17
TR16
C38
R32
C39
R31
R29
R28
C37
R26
TR7
TR5
R24
C35
R27
C41
C40
C46
JS4
R40
R39
C47
L12
C48
TR12
C53
L13
TR13
C20
C21
R33
C43
L9
R18
TR2
L17
C19
C1
R10
R11
C22
C23
C26
C24
C27
C25
TR14
R42
TR11
R37
C51
R38
R43
L4
C29
IC1
C30
C28
L2
R12
R14
R15
R17
R16
C2
R2
C3
C6
R3
C4
TR1
R1
C7
P2
P1
R4
C9
C10
C11
C12
C8
R5
R6
C13
C14
R7
R8
R9
C16
C17
C18
C15
VI123A5020
C102
R103
R105
C103
R104
C104
R102
C107
C105
C106
R107
C108
R106
C202
C116
IC101
L101
L102
C109
C110
R122
R123
C112
R108
C113
C114
C124
R113
R114
R115
R116
R112
C115
TR101
R109
C117
R111
R110

PRE AMP PCB VI123A5020

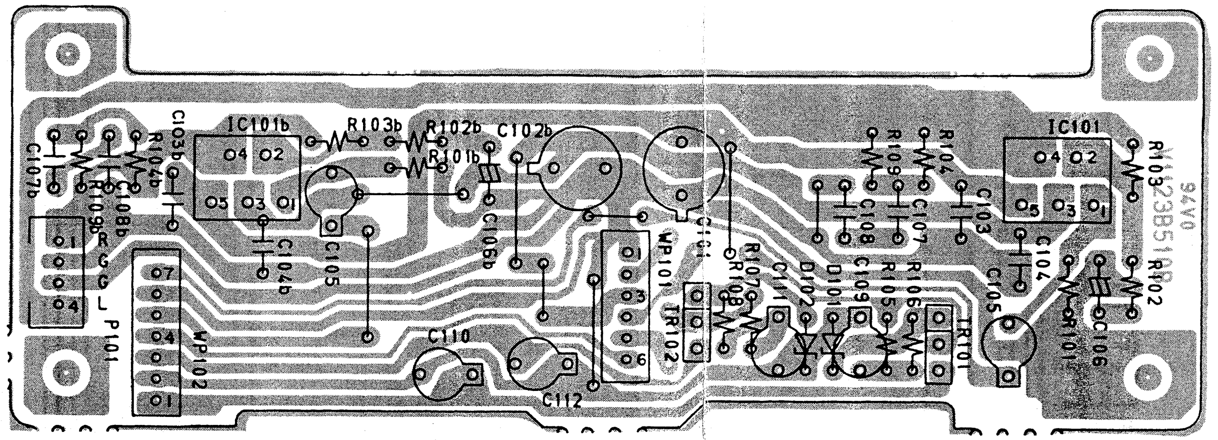

TO SURROUND PCB P1
WP102
7 MAIN.IN.L
6 A.GND
5 MAIN.IN.R
4 PROTECT
3 −8V
2 GND
1 +14V
TO POWER SUPPLY PCB P2
WP101
6 PROTECT
5 −29V
4 +29V
3 −20V
2 +20V
1 GND
FR101
1/4W
6.8
TR101
2SD1762 (E, F)
29.0V
15.0V
15.5V
+14V
R105
1.8K
R106
100
C109
47/16
D101
HZS15−2
C110
10/25
C111
47/16
D102
HZS9B2
R108
100
−9.0V
C112
10/25
R107
3.3K
FR102
1/4W
6.8
−29.6V
−8.5V
TR102
2SB1185 (E, F)
−8V
−20V
+20V
C102
47/25
C101
47/25
C105
10/25
R101
22K
0V
IC101
LM1875T
20.5V
−20.9V
R103
5.6K
R102
1K
C106
47/6.3
C104
0.022 (Z)
C103
0.022 (Z)
C106b
47/6.3
C104b
0.022 (Z)
R102b
1K
R101b
22K
C105b
10/25
R103b
5.6K
IC101b
LM1875T
C103b
0.022 (Z)
R104
20
R109
20
C107
0.047 (J)
C108
0.047 (J)
C108b
0.047 (J)
C107b
0.047 (J)
R104b
20
R109b
20
P101
4 SP OUT.L
3 A GND
2 A GND
1 SP OUT.R
TO MAIN PCB WP290

MAIN AMP PCB V1123B510B

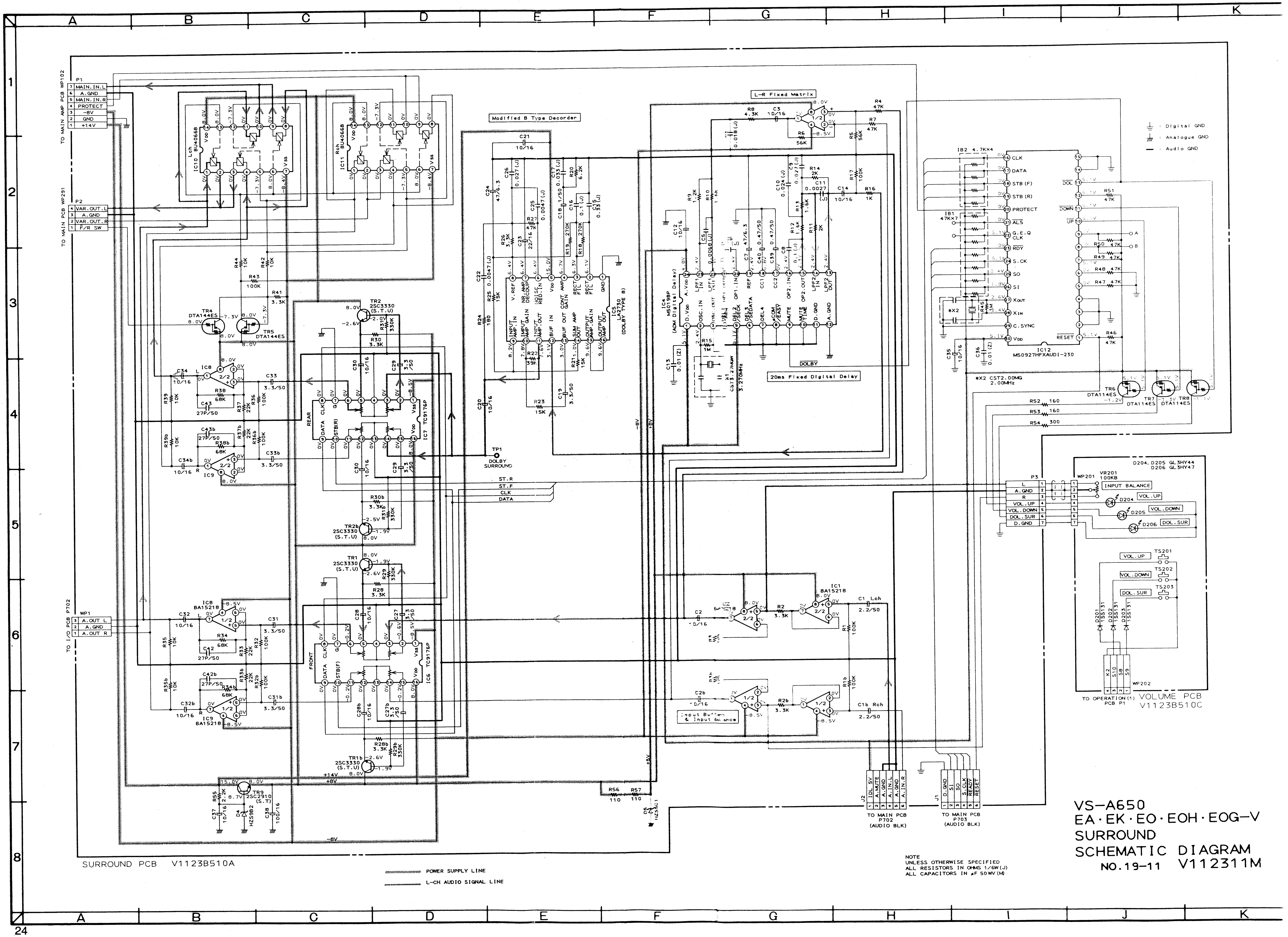
: B (POWER SUPPLY) LINE
: AUDIO SIGNAL LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μF 50WV (M)

VS−F600/A650
EA·EK·EO·EOH·EOG−V
MAIN AMP
SCHEMATIC DIAGRAM
NO.19−10 V112310M

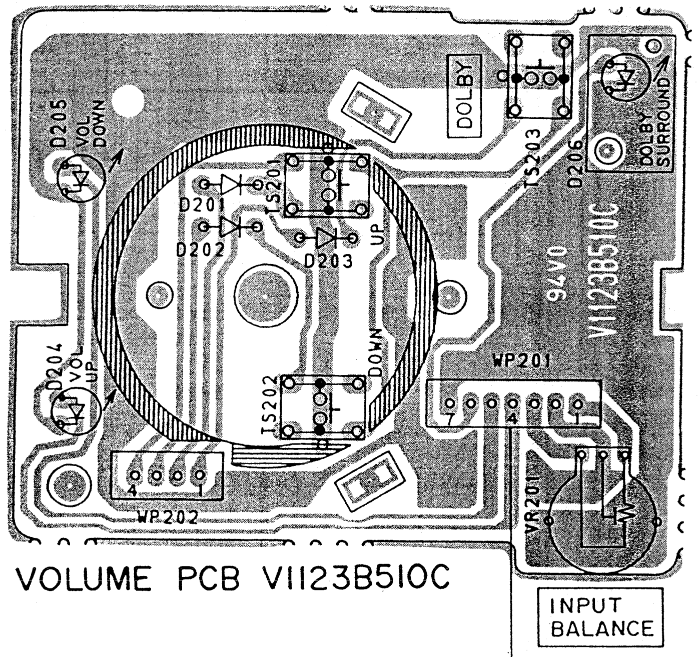

94V0
V1123B510B
IC101
IC101b
R101
R102
R103
R104
R105
R106
R107
R108
R109
R101b
R102b
R103b
R104b
R109b
C101
C102b
C103
C103b
C104
C104b
C105
C106
C106b
C107
C107b
C108
C108b
C109
C110
C111
C112
D101
D102
TR101
TR102
WP101
WP102
P101

MAIN AMP PCB V1123B510B

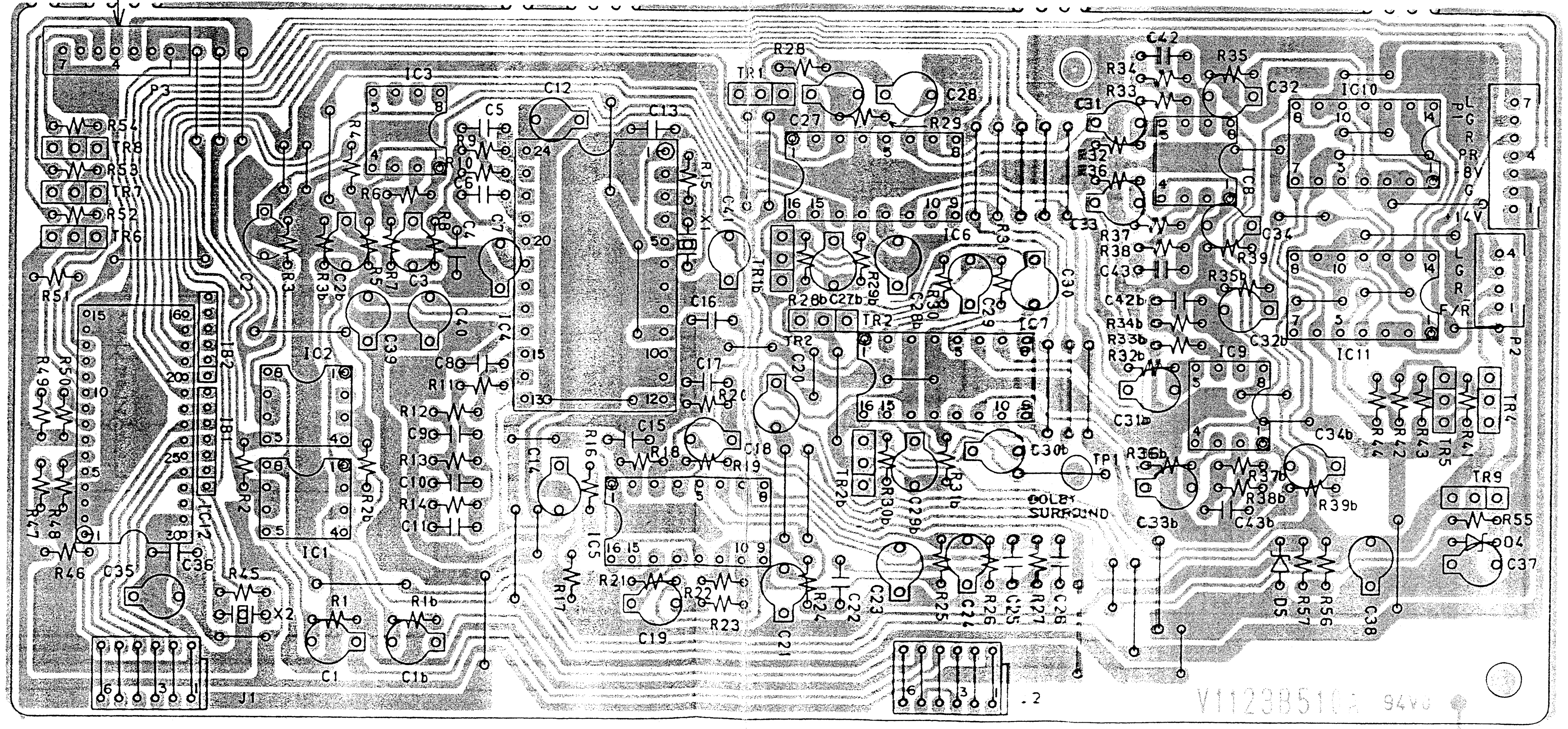

A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
24
P1
MAIN.IN.L
A.GND
MAIN.IN.R
PROTECT
-8V
GND
+14V
TO MAIN AMP PCB WP102
P2
VAR.OUT.L
A.GND
VAR.OUT.R
F/R SW
TO MAIN PCB WP291
WP1
A.OUT L
A.GND
A.OUT R
TO I/O PCB P702
IC10 Lch BU4066B
IC11 Rch BU4066B
TR4 DTA144ES
TR5 DTA144ES
TR2 2SC3330 (S.T.U)
TR2b 2SC3330 (S.T.U)
TR1 2SC3330 (S.T.U)
TR1b 2SC3330 (S.T.U)
TR9 2SC2910 (S.T)
D4 HZS9B2
IC8 BA15218
IC9 BA15218
IC7 TC9176P
IC6 TC9176P
REAR
FRONT
Modified B Type Decorder
IC5 LA2730 (DOLBY TYPE B)
TP1 DOLBY SURROUND
ST.R
ST.F
CLK
DATA
IC4 M50198P (ADM Digital Delay)
20ms Fixed Digital Delay
DOLBY
CST3.270MHz
L-R Fixed Matrix
IC1 BA15218
C1 Lch
C1b Rch
Input Buffer & Input Balance
R56 110
R57 110
D5 HZS6C1
+8V
-8V
+14V
IC12 M50927HFXAUD1-230
IB1 47K×7
IB2 4.7K×4
CLK
DATA
STB (F)
STB (R)
PROTECT
ALS
G.E.Q CLK
RDY
S.CK
SO
SI
XOUT
XIN
C.SYNC
VDD
RESET
DOL
DOWN
UP
*X2 CST2.00MG 2.00MHz
TR6 DTA114ES
TR7 DTA114ES
TR8 DTA114ES
R52 160
R53 160
R54 300
: Digital GND
: Analogue GND
: Audio GND
P3
L
A.GND
R
VOL.UP
VOL.DOWN
DOL.SUR
D.GND
WP201
VR201 100KB
INPUT BALANCE
D204, D205 GL3HY44
D206 GL3HY47
D204
D205
D206
VOL.UP
VOL.DOWN
DOL.SUR
TS201
TS202
TS203
D201 1SS131
D202 1SS131
D203 1SS131
WP202
K2
S10
S8
S9
TO OPERATION(1) PCB P1
VOLUME PCB
V1123B510C
J2
IDL 5V
A.MUTE
A.GND
A.IN.L
A.GND
A.IN.R
TO MAIN PCB P702 (AUDIO BLK)
J1
D.GND
SI
SO
S.CLK
READY
RESET
TO MAIN PCB P703 (AUDIO BLK)
SURROUND PCB V1123B510A
POWER SUPPLY LINE
L-CH AUDIO SIGNAL LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN µF 50WV (M)

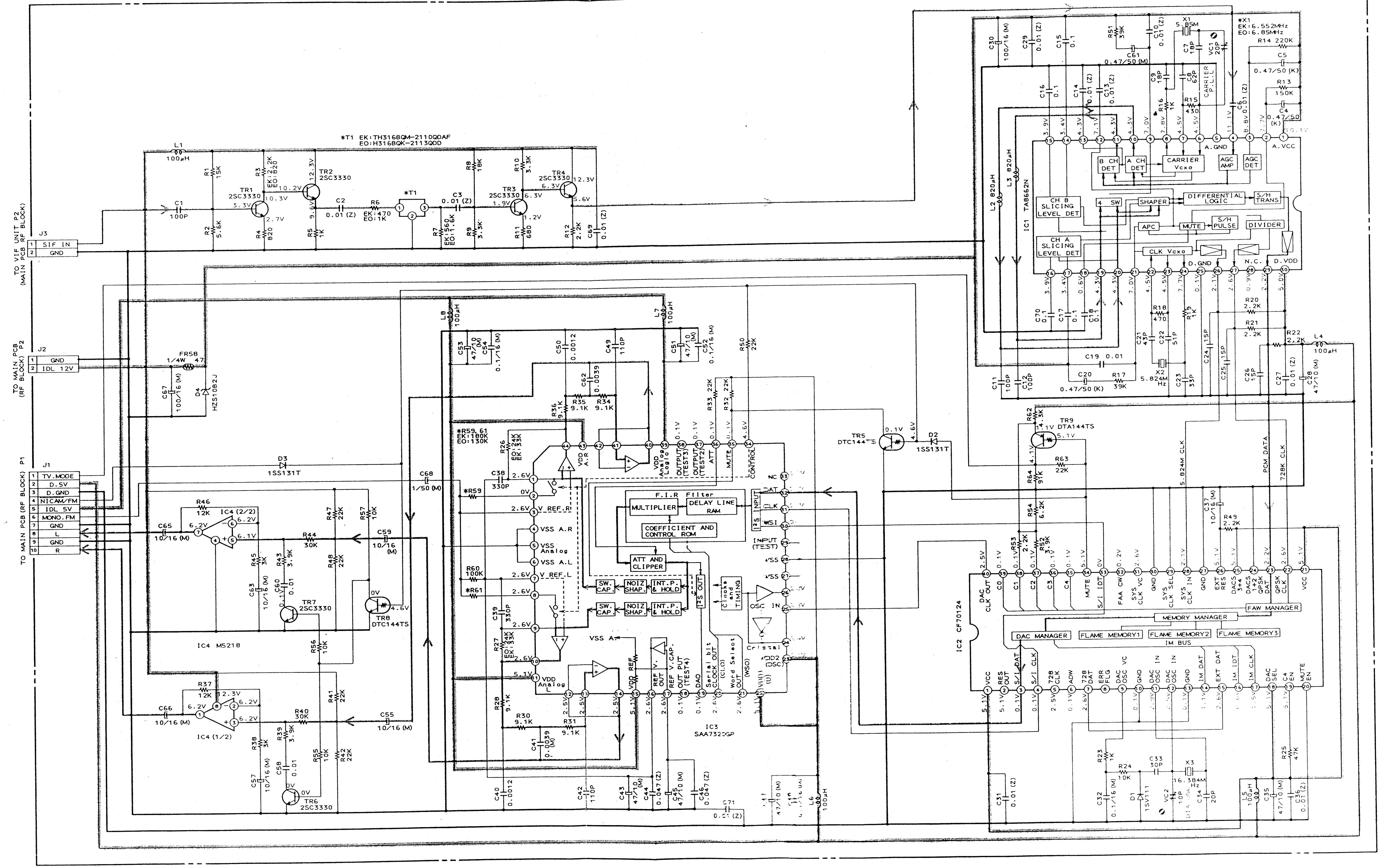
VS-A650
EA·EK·EO·EOH·EOG-V
SURROUND
SCHEMATIC DIAGRAM
NO.19-11 V112311M


D205
VOL
DOWN
D201
D202
D203
TS201
UP
DOLBY
TS203
D206
DOLBY
SURROUND
94V0
V1123B510C
D204
VOL
UP
TS202
DOWN
WP201
WP202
VR201
INPUT
BALANCE

VOLUME PCB V1123B510C


P3
TR8
TR7
TR6
IC3
C12
C13
IC4
IC2
IC1
IC12
IB1
IB2
J1
X1
X2
TR1
TR1b
TR2
TR2b
IC5
IC6
IC7
IC8
IC9
IC10
IC11
TP1
DOLBY
SURROUND
TR4
TR5
TR9
P2
D4
D5
C37
C38
V1123B510A
94V0

SURROUND PCB V1123B510A


TO VIF UNIT P2 (MAIN PCB RF BLOCK)
J3
1 SIF IN
2 GND
TO MAIN PCB (RF BLOCK) P2
J2
1 GND
2 IDL 12V
TO MAIN PCB (RF BLOCK) P1
J1
1 TV.MODE
2 D.5V
3 D.GND
4 NICAM/FM
5 IDL 5V
6 MONO.FM
7 GND
8 L
9 GND
10 R
*T1 EK:TH316BQM-2110QDAF
EO:H316BQK-2113QDD
TR1 2SC3330
TR2 2SC3330
TR3 2SC3330
TR4 2SC3330
TR5 DTC144ES
TR6 2SC3330
TR7 2SC3330
TR8 DTC144TS
TR9 DTA144TS
D2 1SS131T
D3 1SS131T
D4 HZS10B2J
FR58 1/4W 47
L1 100µH
L2 820µH
L3 820µH
L4 100µH
L5 100µH
L6 100µH
L7 100µH
L8 100µH
IC1 TA8662N
IC2 CF70124
IC3 SAA7320GP
IC4 M5218
IC4 (1/2)
IC4 (2/2)
*X1 EK:6.552MHz EO:6.85MHz
X2 5.824MHz
X3 16.384MHz
*R59,61 EK:180K EO:130K
AGC DET
AGC AMP
CARRIER Vcxo
A CH DET
B CH DET
CH B SLICING LEVEL DET
CH A SLICING LEVEL DET
DIFFERENTIAL LOGIC
S/H TRANS
SHAPER
SW
APC
MUTE
S/H PULSE
DIVIDER
CLK Vcxo
A.VCC
A.GND
D.GND
N.C.
D.VDD
PCM DATA
728K CLK
5.824M CLK
FAW MANAGER
MEMORY MANAGER
DAC MANAGER
FLAME MEMORY1
FLAME MEMORY2
FLAME MEMORY3
IM BUS
F.I.R Filter
MULTIPLIER
DELAY LINE RAM
COEFFICIENT AND CONTROL ROM
ATT AND CLIPPER
NOIZ SHAP.
INT.P. & HOLD
SW. CAP.
I²S OUT
Clock and TIMING
OSC IN
Crystal
Word Select OUT (WSO)
Serial bit CLOCK OUT (CLO)
DAO
OUT PUT (TEST4)
REF V.CAP.
REF OUT
VDD REF
VDD Analog L
VDD Analog R
VSS A.R
VSS Analog
VSS A.L
V.REF.R
V.REF.L
VDD Analog Logic
OUTPUT (TEST3)
OUTPUT (TEST2)
ATT
MUTE
CONTROL
NC
DAT
CLK
WSI
INPUT (TEST)
VSS
VDD2 (OSC)
VCC
RES OUT
S/I DAT
S/I CLK
728 CLK
ADW
728 DAT
ERR FLG
DAC OSC VC
DAC OSC IN
GND
IM DAT
EXT DAT
IM IDT
IM CLK
DAC SEL
C4 EN
MUTE EN
DAC CLK OUT
C0
C1
C2
C3
S/I IDT
FAA CW
SYS CLK VC
SYS CLK SEL
SYS CLK IN
EXT RES
DACS 3+4
DACS 1+2
QPSK DAT
QPSK CLK

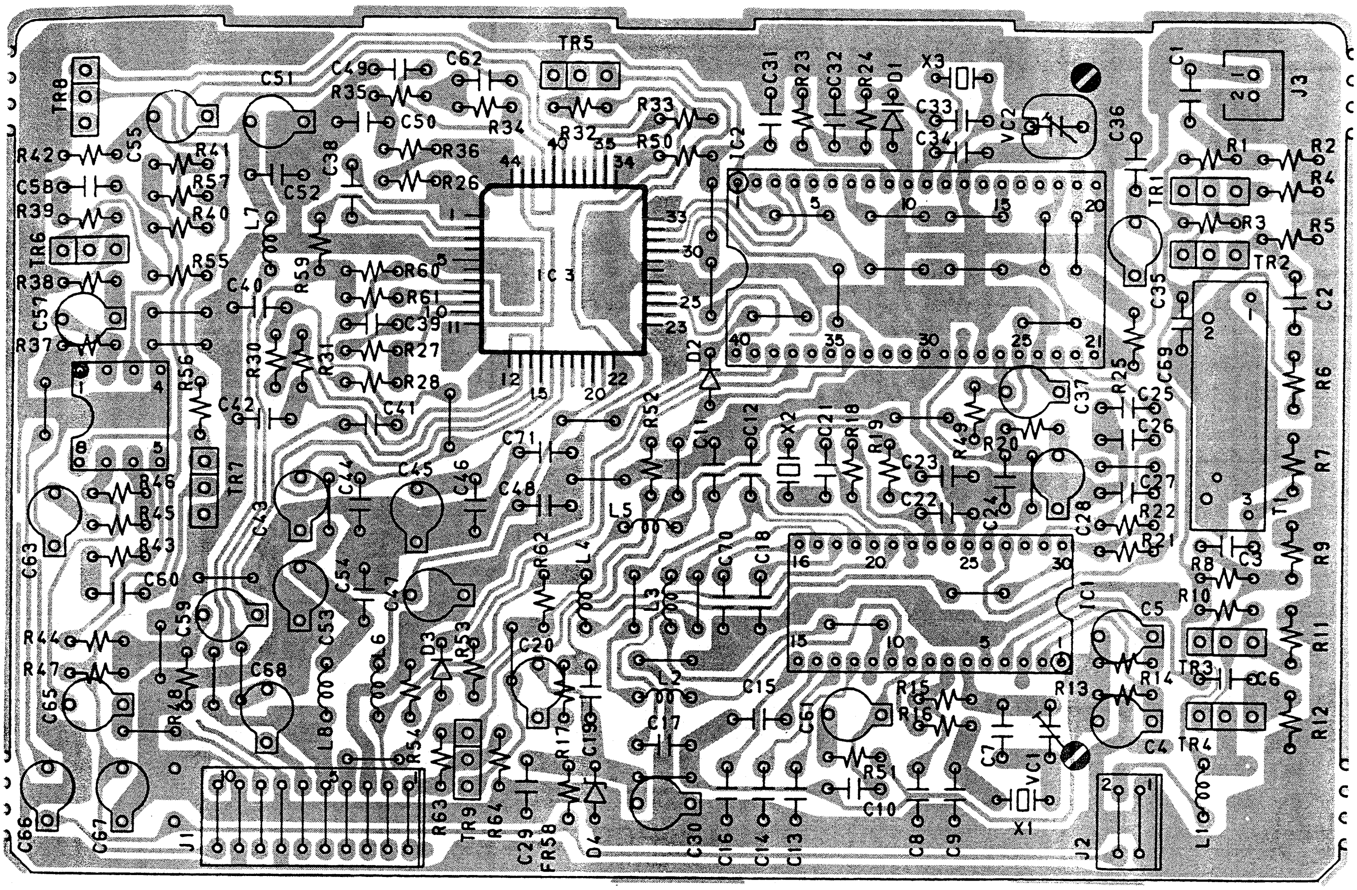
NICAM PCB V1123B5080

INDICATED VOLTAGES ARE MEASURED IN EE (STOP) MODE
(NO SIGNAL INPUT)

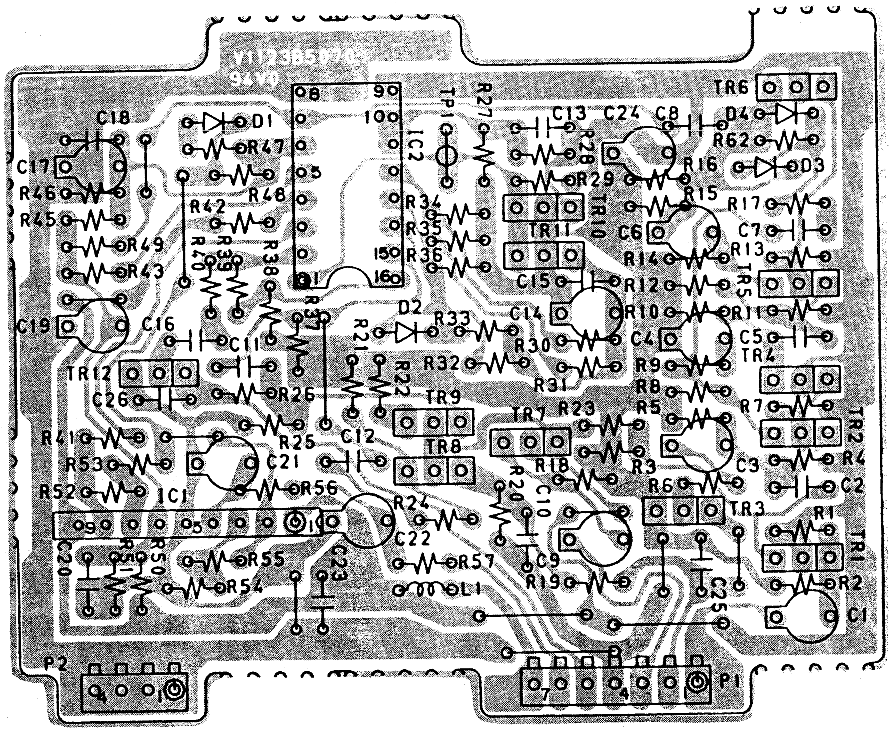
B (POWER SUPPY) LINE
SIGNAL LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN µF 50WV (J)

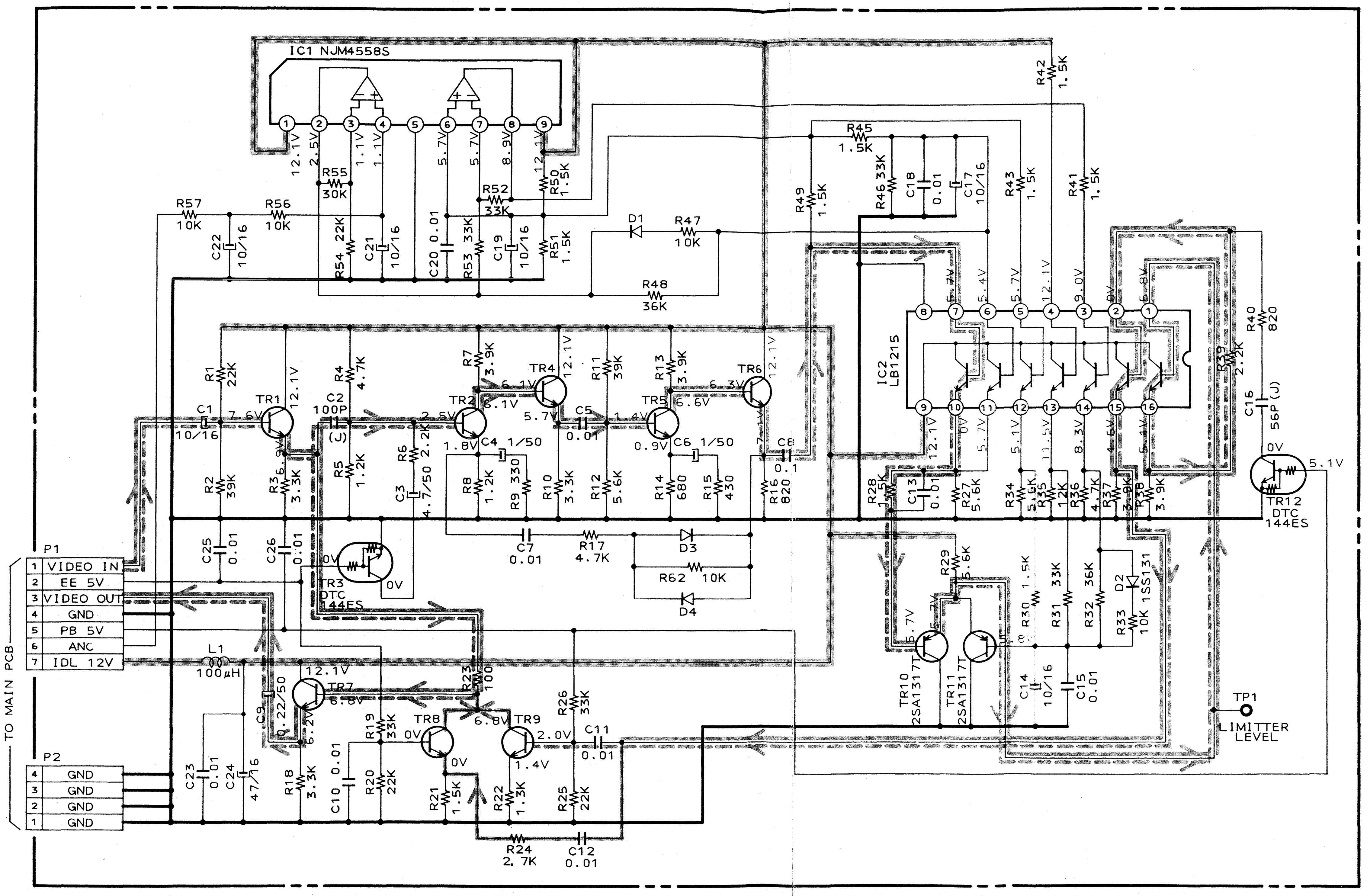
VS-F600/A650 EK·EO
NICAM
SCHEMATIC DIAGRAM
NO.19-12 V112312M


TR8
C51
C49
C62
TR5
C31
R23
C32
R24
D1
X3
C1
J3
R35
C50
R34
R33
R32
R50
IC2
C33
C34
VC2
C36
R1
R2
R4
R42
C55
R41
R36
R26
TR1
R3
R5
C58
R57
C38
C52
R39
R40
L7
TR2
TR6
R55
R59
R60
IC3
C35
R38
C40
R61
C39
C2
C57
R30
R31
R27
R28
D2
R25
C69
R6
R37
R56
C42
C41
R52
C11
C12
X2
C21
R18
R19
R49
R20
C37
C25
C26
TR7
C71
C46
C48
C44
C45
C23
C22
C24
C28
C27
R22
R21
R7
T1
R46
R45
R43
C43
L5
C70
C18
C63
C60
C54
C47
R62
L4
L3
IC1
R8
C3
R9
R10
R11
C59
C53
L6
D3
R53
C20
C5
TR3
C6
R44
R47
C68
L2
C15
R15
R16
R13
R14
C65
R48
L8
R54
R17
C19
C17
C61
C7
VC1
C4
TR4
R12
J1
R63
TR9
R64
C29
FR58
D4
C30
C16
C14
C13
R51
C10
C8
C9
X1
J2
L1
C66
C67

NICAM PCB VI123B5080


V1123B5070
94V0
IC1
IC2
TP1
TR1
TR2
TR3
TR4
TR5
TR6
TR7
TR8
TR9
TR10
TR11
TR12
D1
D2
D3
D4
L1
P1
P2
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
C17
C18
C19
C20
C21
C22
C23
C24
C25
C26
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
R21
R22
R23
R24
R25
R26
R27
R28
R29
R30
R31
R32
R33
R34
R35
R36
R37
R38
R39
R40
R41
R42
R43
R45
R46
R47
R48
R49
R50
R51
R52
R53
R54
R55
R56
R57
R62

I.HQ PCB VI123B5070


IC1 NJM4558S
IC2 LB1215
TR1
TR2
TR3 DTC 144ES
TR4
TR5
TR6
TR7
TR8
TR9
TR10 2SA1317T
TR11 2SA1317T
TR12 DTC 144ES
P1
1 VIDEO IN
2 EE 5V
3 VIDEO OUT
4 GND
5 PB 5V
6 ANC
7 IDL 12V
P2
4 GND
3 GND
2 GND
1 GND
TO MAIN PCB
L1 100μH
TP1 LIMITTER LEVEL
R1 22K
R2 39K
R3 3.3K
R4 4.7K
R5 1.2K
R6 2.2K
R7 3.9K
R8 1.2K
R9 330
R10 3.3K
R11 39K
R12 5.6K
R13 3.9K
R14 680
R15 430
R16 820
R17 4.7K
R18 3.3K
R19 33K
R20 22K
R21 1.5K
R22 1.3K
R23 100
R24 2.7K
R25 22K
R26 33K
R27 5.6K
R28 1.5K
R29 5.6K
R30 1.5K
R31 33K
R32 36K
R33 10K
R34 5.6K
R35 12K
R36 4.7K
R37 3.9K
R38 3.9K
R39 2.2K
R40 820
R41 1.5K
R42 1.5K
R43 1.5K
R45 1.5K
R46 33K
R47 10K
R48 36K
R49 1.5K
R50 1.5K
R51 1.5K
R52 33K
R53 33K
R54 22K
R55 30K
R56 10K
R57 10K
R62 10K
C1 10/16
C2 100P (J)
C3 4.7/50
C4 1/50
C5 0.01
C6 1/50
C7 0.01
C8 0.1
C9 0.22/50
C10 0.01
C11 0.01
C12 0.01
C13 0.01
C14 10/16
C15 0.01
C16 56P (J)
C17 10/16
C18 0.01
C19 10/16
C20 0.01
C21 10/16
C22 10/16
C23 0.01
C24 47/16
C25 0.01
C26 0.01
D1
D2 1SS131
D3
D4
12.1V
2.5V
1.1V
1.1V
5.7V
5.7V
8.9V
12.1V
7.6V
6.9V
2.5V
1.8V
6.1V
6.1V
5.7V
1.4V
0.9V
6.6V
6.3V
7.1V
12.1V
6.8V
6.2V
0V
0V
6.8V
2.0V
1.4V
5.7V
5.4V
5.7V
12.1V
9.0V
0V
5.8V
12.1V
0V
5.7V
5.1V
11.5V
8.3V
4.6V
5.1V
5.7V
5.1V

I-HQ PCB V1123B5070

POWER SUPPLY LINE

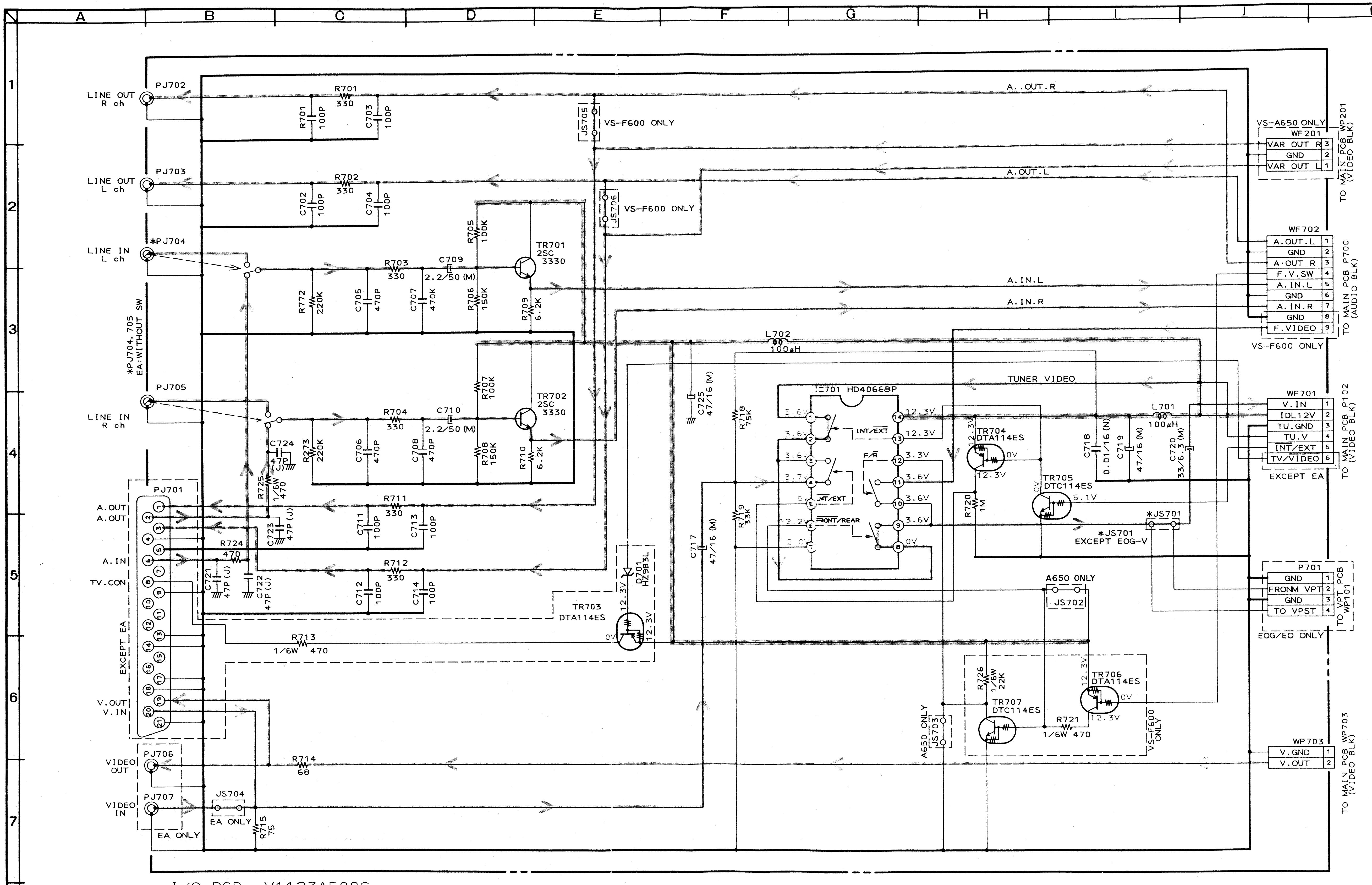
REC Y SIGNAL LINE

PB Y SIGNAL LINE

INDICATED VOLTAGES ARE MEASURED IN PB MODE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN μF 16WV (N)
ALL TRANSISTORS ARE 2SC3330
ALL DIODES ARE 1SS131

VS-F600/A650
EA·EK·EO·EOH·EOG-V
I-HQ
SCHEMATIC DIAGRAM
NO.19-13 V112313M

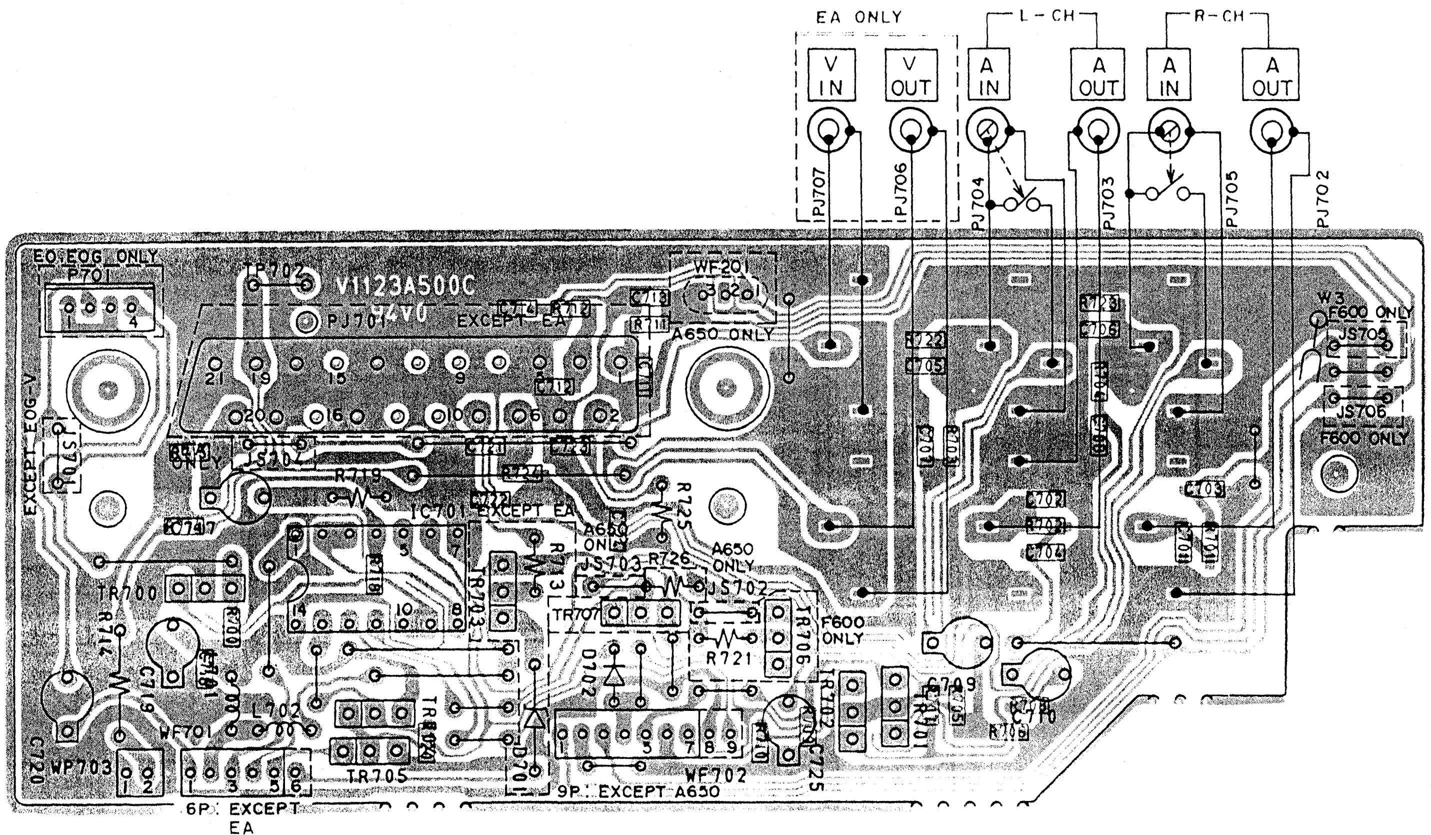

LINE OUT R ch
PJ702
LINE OUT L ch
PJ703
LINE IN L ch
*PJ704
LINE IN R ch
PJ705
*PJ704, 705 EA:WITHOUT SW
PJ701
A.OUT
A.OUT
A.IN
TV.CON
EXCEPT EA
V.OUT
V.IN
VIDEO OUT
PJ706
VIDEO IN
PJ707
EA ONLY
JS704
EA ONLY
R715 75
R701 330
C701 100P
C703 100P
R702 330
C702 100P
C704 100P
R703 330
C709 2.2/50 (M)
R772 220K
C705 470P
C707 470K
R705 100K
R706 150K
R709 6.2K
TR701 2SC 3330
R704 330
C710 2.2/50 (M)
R773 220K
C706 470P
C708 470P
R707 100K
R708 150K
R710 6.2K
TR702 2SC 3330
C724 47P (J)
R725 1/6W 470
C723 47P (J)
R724 470
C721 47P (J)
C722 47P (J)
R711 330
C711 100P
C713 100P
R712 330
C712 100P
C714 100P
R713 1/6W 470
R714 68
JS705
VS-F600 ONLY
JS706
VS-F600 ONLY
A..OUT.R
A.OUT.L
A.IN.L
A.IN.R
TUNER VIDEO
D701 HZ9B3L
TR703 DTA114ES
12.3V
0V
L702 100μH
C725 47/16 (M)
R718 75K
R719 33K
C717 47/16 (M)
IC701 HD40668P
INT/EXT
F/R
INT/EXT
FRONT/REAR
12.3V
3.3V
3.6V
0V
TR704 DTA114ES
R720 1M
TR705 DTC114ES
5.1V
C718 0.01/16 (N)
C719 47/16 (M)
L701 100μH
C720 33/6.3 (M)
*JS701
*JS701 EXCEPT EOG-V
A650 ONLY
JS702
A650 ONLY
JS703
R726 1/6W 22K
TR707 DTC114ES
TR706 DTA114ES
R721 1/6W 470
VS-F600 ONLY
VS-A650 ONLY
WF201
VAR OUT R 3
GND 2
VAR OUT L 1
TO MAIN PCB WP201 (VIDEO BLK)
WF702
A.OUT.L 1
GND 2
A.OUT R 3
F.V.SW 4
A.IN.L 5
GND 6
A.IN.R 7
GND 8
F.VIDEO 9
VS-F600 ONLY
TO MAIN PCB P700 (AUDIO BLK)
WF701
V.IN 1
IDL12V 2
TU.GND 3
TU.V 4
INT/EXT 5
TV/VIDEO 6
EXCEPT EA
TO MAIN PCB P102 (VIDEO BLK)
P701
GND 1
FRONM VPT 2
GND 3
TO VPST 4
EOG/EO ONLY
TO VPT PCB WP101
WP703
V.GND 1
V.OUT 2
TO MAIN PCB WP703 (VIDEO BLK)

I/O PCB V1123A500C

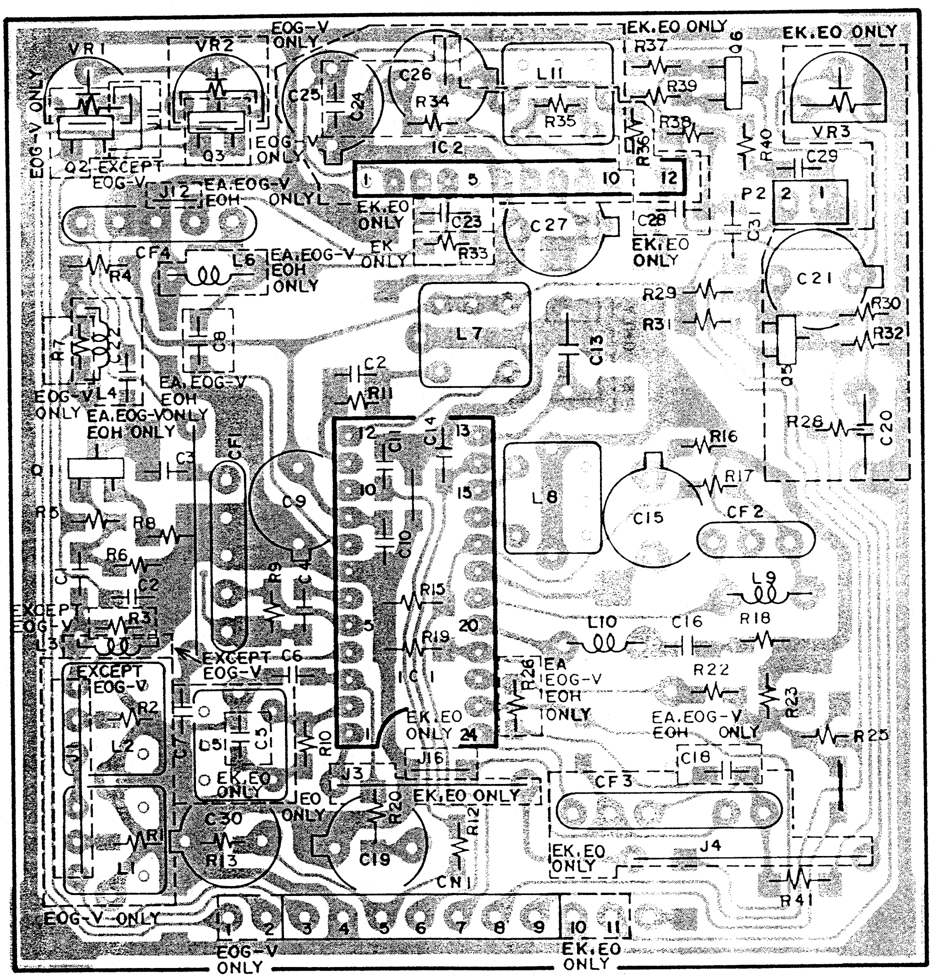
POWER SUPPLY LINE
VIDEO OUT SIGNAL LINE
VIDEO IN SIGNAL LINE
AUDIO OUT SIGNAL LINE
AUDIO IN SIGNAL LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)
ALL CAPACITORS IN μF 50WV (K)

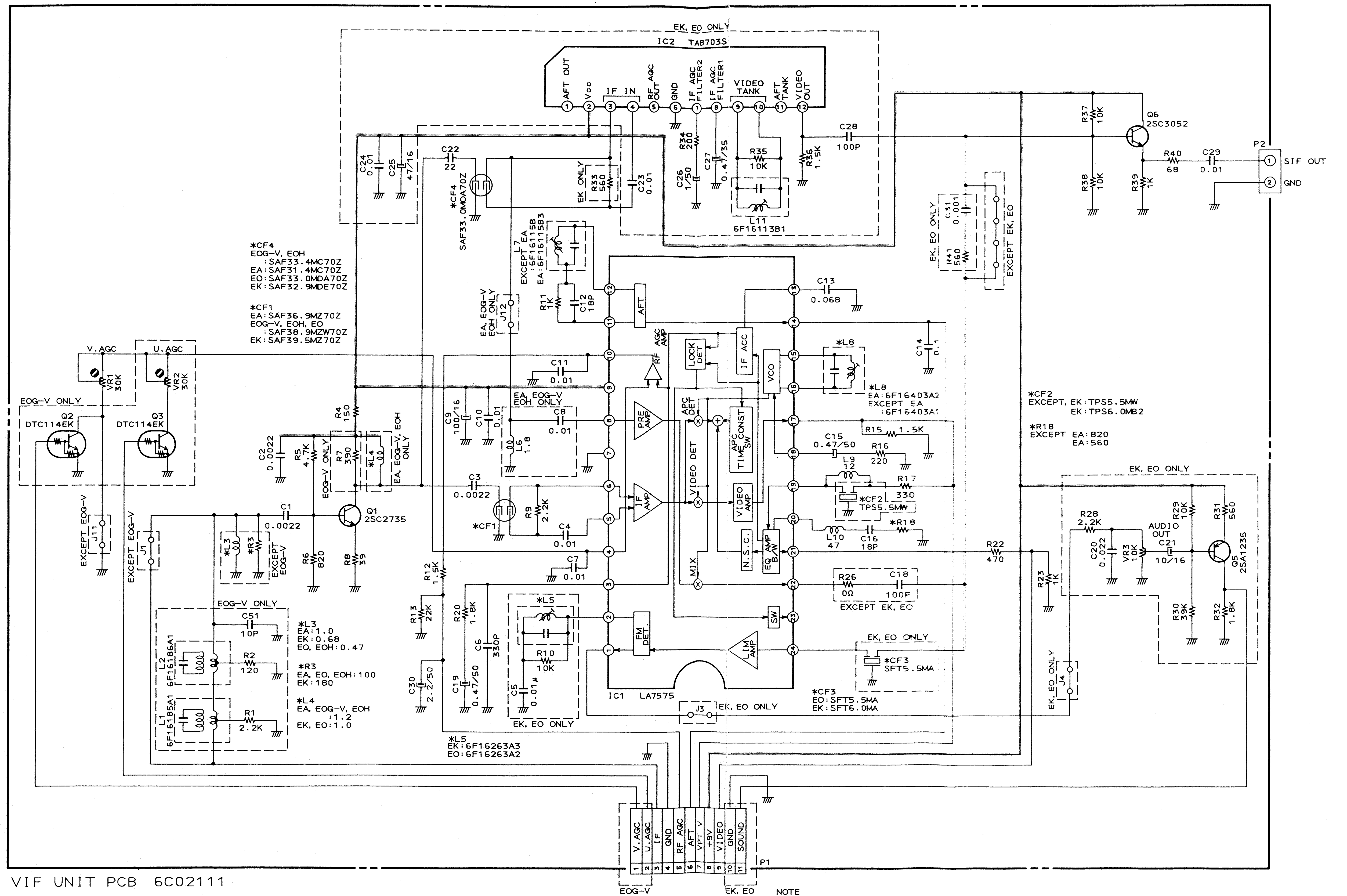
VS-F600/A650
EA·EK·EO·EOH·EOG-V
I/O
SCHEMATIC DIAGRAM
NO.19-14 V112314M


EA ONLY
L - CH
R - CH
V IN
V OUT
A IN
A OUT
A IN
A OUT
PJ707
PJ706
PJ704
PJ703
PJ705
PJ702
EO EOG ONLY
P701
TR702
V1123A500C
PJ701
EXCEPT EA
WF201
A650 ONLY
W3
F600 ONLY
JS705
JS706
F600 ONLY
EXCEPT EOG-V
JS701
JS704
R719
IC701 EXCEPT EA
R725
A650 ONLY
JS703
R726
A650 ONLY
JS702
TR700
R744
C719
L702
WF701
TR703
TR707
D702
R721
F600 ONLY
TR706
C709
R710
C710
TR705
TR704
D701
WF702
9P. EXCEPT A650
C725
C720
WP703
6P. EXCEPT EA

I/O PCB V1123A500C


EOG-V ONLY
VR1
VR2
Q2 EXCEPT EOG-V
Q3
J12
EA.EOG-V EOH ONLY
EOG-V ONLY
C25
C24
C26
R34
IC2
L11
R35
EK.EO ONLY
R37
R39
R38
R36
R40
VR3
C29
P2
C31
C28
EK.EO ONLY
C23
R33
EK ONLY
C27
CF4
L6
EA.EOG-V EOH ONLY
R4
R7
C22
L4
EOG-V ONLY
EA.EOG-V ONLY EOH ONLY
C8
EA.EOG-V EOH
C2
R11
L7
C13
R29
R31
C21
R30
R32
Q5
R28
C20
Q
C3
CF1
C9
C14
C11
C10
12
10
13
15
20
24
R15
R19
IC1
L8
R16
R17
C15
CF2
L9
R18
L10
C16
R5
R8
R6
R9
C1
C2
C4
R3
L3
EXCEPT EOG-V
EXCEPT C6 EOG-V
R26
EA EOG-V EOH ONLY
R22
R23
EA.EOG-V EOH ONLY
R25
R2
L2
R1
L1
C7
D51
C5
R10
EK.EO ONLY
J3
J16
C18
CF3
J4
EO ONLY
C30
R13
R20
C19
R12
CN1
EK.EO ONLY
R41
EOG-V ONLY
1
2
3
4
5
6
7
8
9
10
11
EOG-V ONLY
EK.EO ONLY

VIF UNIT 6C02111A1


EK, EO ONLY
IC2 TA8703S
AFT OUT
Vcc
IF IN
RF AGC OUT
GND
IF AGC FILTER2
IF AGC FILTER1
VIDEO TANK
AFT TANK
VIDEO OUT
C24 0.01
C25 47/16
C22 22
*CF4 SAF33.0MOA70Z
EK ONLY
R33 560
C23 0.01
R34 200
C26 1/50
C27 0.47/35
R35 10K
L11 6F1611381
R36 1.5K
C28 100P
R37 10K
R38 10K
Q6 2SC3052
R39 1K
R40 68
C29 0.01
P2
SIF OUT
GND
EK, EO ONLY
C31 0.001
R41 560
EXCEPT EK, EO
L7 EXCEPT EA :6F16115B EA:6F16115B3
R11 1K
C12 18P
EA, EOG-V EOH ONLY
J12
AFT
C13 0.068
C14 0.1
V.AGC
U.AGC
VR1 30K
VR2 30K
EOG-V ONLY
Q2 DTC114EK
Q3 DTC114EK
EXCEPT EOG-V
J11
J1
R4 150
C2 0.0022
R5 4.7K
EOG-V ONLY
R7 390
*L4
EA, EOG-V, EOH ONLY
C1 0.0022
Q1 2SC2735
*L3
*R3
EXCEPT EOG-V
R6 820
R8 39
EOG-V ONLY
C51 10P
L2 6F16186A1
R2 120
L1 6F16185A1
R1 2.2K
C9 100/16
C10 0.01
C11 0.01
EA, EOG-V EOH ONLY
C8 0.01
L6 1.8
C3 0.0022
*CF1
R9 2.2K
C4 0.01
C7 0.01
R12 1.5K
R13 22K
R20 1.8K
C6 330P
*L5
R10 10K
C5 0.01μ
C30 2.2/50
C19 0.47/50
EK, EO ONLY
RF AGC AMP
PRE AMP
IF AMP
FM DET.
IC1 LA7575
LOCK DET
IF ACC
VCO
APC DET
APC TIME CONST SW
VIDEO DET
VIDEO AMP
N.S.C.
EQ AMP B/W
MIX
SW
LIM AMP
J3
EK, EO ONLY
*L8
C15 0.47/50
R15 1.5K
R16 220
L9 12
R17 330
*CF2 TPS5.5MW
L10 47
C16 18P
*R18
R26 0Ω
C18 100P
EXCEPT EK, EO
EK, EO ONLY
*CF3 SFT5.5MA
R22 470
R23 1K
EK, EO ONLY
J4
EK, EO ONLY
R28 2.2K
C20 0.022
VR3 10K
AUDIO OUT
C21 10/16
R29 10K
R31 560
Q5 2SA1235
R30 39K
R32 1.8K
P1
1 V.AGC
2 U.AGC
3 IF
4 GND
5 RF AGC
6 AFT
7 VPT V
8 +9V
9 VIDEO
10 GND
11 SOUND
EOG-V ONLY
EK, EO ONLY
VIF UNIT PCB 6C02111

*CF4
EOG-V, EOH
:SAF33.4MC70Z
EA:SAF31.4MC70Z
EO:SAF33.0MDA70Z
EK:SAF32.9MDE70Z

*CF1
EA:SAF36.9MZ70Z
EOG-V, EOH, EO
:SAF38.9MZW70Z
EK:SAF39.5MZ70Z

*L3
EA:1.0
EK:0.68
EO, EOH:0.47

*R3
EA, EO, EOH:100
EK:180

*L4
EA, EOG-V, EOH
:1.2
EK, EO:1.0

*L5
EK:6F16263A3
EO:6F16263A2

*L8
EA:6F16403A2
EXCEPT EA
:6F16403A1

*CF2
EXCEPT, EK:TPS5.5MW
EK:TPS6.0MB2

*R18
EXCEPT EA:820
EA:560

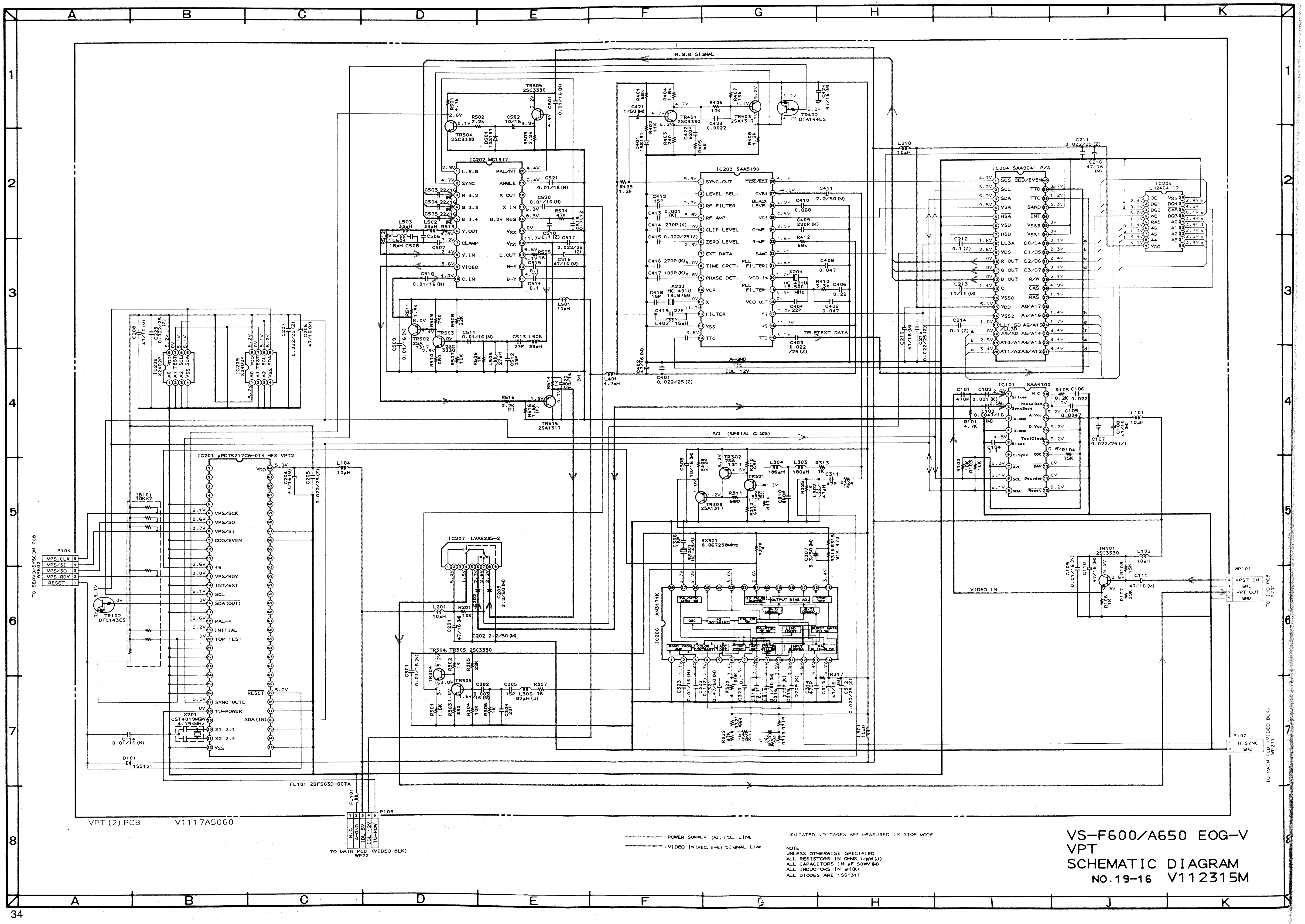
*CF3
EO:SFT5.5MA
EK:SFT6.0MA

:POWER SUPPLY LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W
ALL CAPACITORS IN μF 50WV
ALL INDUCTORS IN μH (K)
ALL DIODES ARE 1SS131T

VS-F600/A650
EA·EK·EO·EOH·EOG-V
VIF UNIT
SCHEMATIC DIAGRAM

NO.19-15 V112316M


A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
R.G.B SIGNAL
TR505 2SC3330
TR504 2SC3330
IC202 MC1377
L.R.G
SYNC
R 3.2
G 3.3
B 3.4
Y.OUT
CLAMP
Y.IN
VIDEO
C.IN
PAL/NT
ANGLE
X OUT
X IN
8.2V REG
VSS
VCC
C.OUT
R-Y
B-Y
TR502 2SA1317
TR503 2SC3330
TR515 2SA1317
IC203 SAA5190
SYNC.OUT
LEVEL SEL.
RF FILTER
RF AMP
CLIP LEVEL
ZERO LEVEL
EXT DATA
TIME CRCT.
PHASE DET.
VCR
X
FILTER
VSS
TTC
TCS/SCS
CVBS
BLACK LEVEL
VCS
C-MF
R-MF
SAND
PLL FILTER2
VCO
PLL FILTER
VCO O
TELETEXT DATA
A-GND
IDL 12V
X203 HC-491U 13.875M
X204 HC-491U 13.500 MHz
TR401 2SC3330
TR403 2SA1317
TR402 DTA144ES
IC204 SAA9041 P/A
SCS
SCL
SDA
VSA
HSA
VSD
HSD
LL3A
VDS
R OUT
G OUT
B OUT
C
VSSO
VDD
VSS2
LL1.5D
A9/A0
A10/A1
A11/A2
ODD/EVEN
TTD
TTC
SAND
INT
VSS3
VSS1
D0/D4
D1/D5
D2/D6
D3/D7
R/W
CAS
RAS
A8/A17
A7/A16
A6/A15
A5/A14
A4/A13
A3/A12
IC205 LH2464-12
IC101 SAA4700
Slicer
Phase Det
SyncSepa
A.GND
D.GND
Black
C.Sync
A/C
SCL
SDA
N.C
A.Vcc
D.Vcc
TestClock
OSC
DAV
Decoder
Reset
SCL (SERIAL CLOCK)
IC201 µPD75217CW-014 HFX VPT2
VPS/SCK
VPS/SO
VPS/SI
ODD/EVEN
45
VPS/RDY
INT/EXT
SCL
SDA (OUT)
PAL-P
INITIAL
TOP TEST
SYNC MUTE
TU-POWER
X1
X2
VSS
VDD
RESET
SDA (IN)
X201 CST4019MGW 4.194MHz
IB101 10KX7
IC208 X2402P
IC209 X2402P
TR102 DTC143ES
D101 1SS131
FL101 ZBF503D-00TA
IC207 LVA523S-2
TR304, TR305 2SC3330
TR302 2SA1317
TR303 2SA1317
TR301
IC206 AN5171K
X301 8.867238MHz
TR101 2SC3330
VIDEO IN
P104
VPS.CLK
VPS/SI
VPS/SO
VPS.RDY
RESET
TO SERVO/SYSCON PCB WP602
P103
N.C
A-GND
IDL 5V
IDL 12V
TU-POW
TO MAIN PCB (VIDEO BLK) WP72
WP101
VPST IN
GND
VPT OUT
GND
TO I/O PCB P701
P102
H. SYNC
GND
TO MAIN PCB (VIDEO BLK) WP271
VPT (2) PCB
V1117A5060

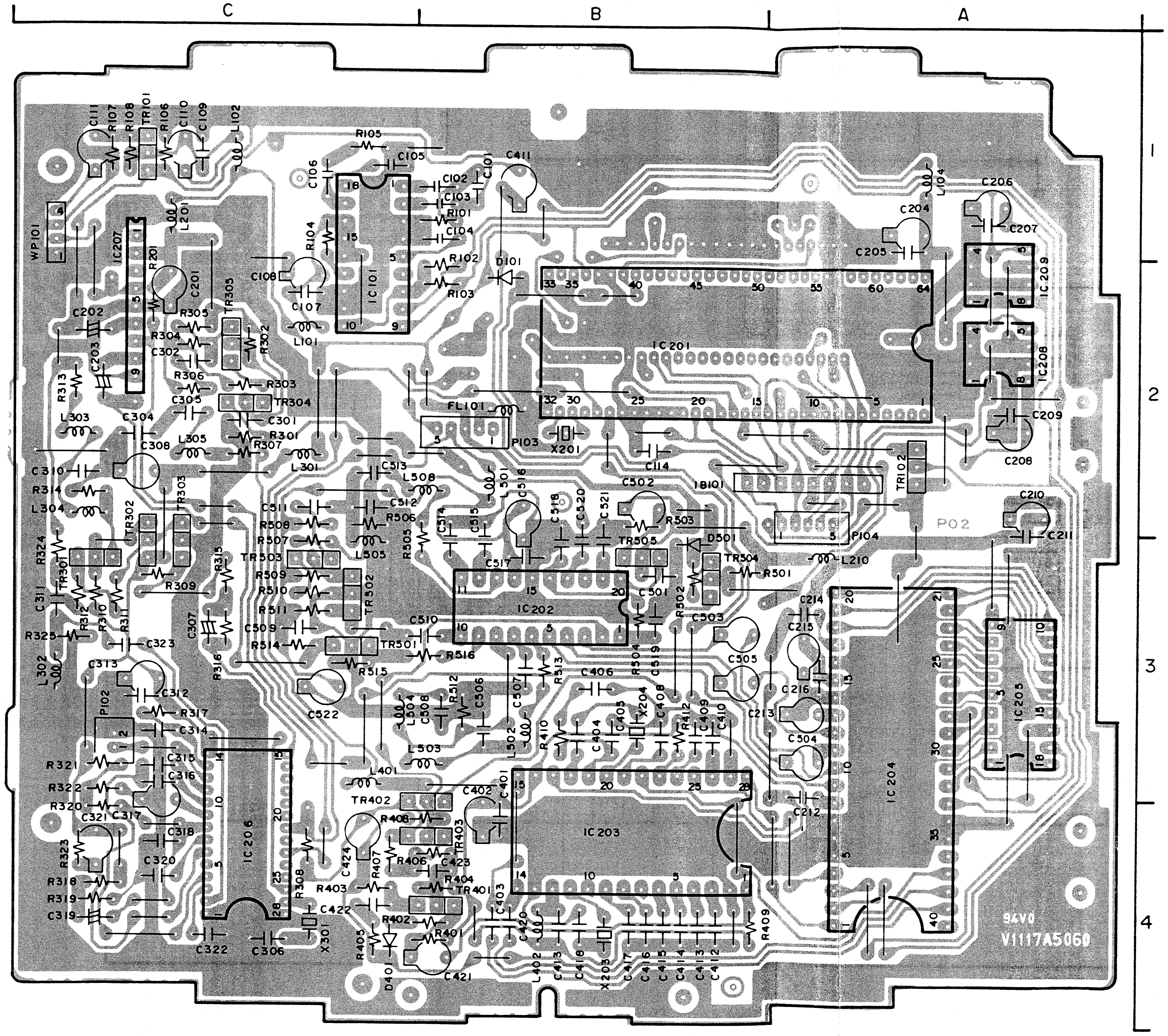
:POWER SUPPLY (AL, IDL) LINE

:VIDEO IN (REC, E-E) SIGNAL LINE

INDICATED VOLTAGES ARE MEASURED IN STOP MODE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)
ALL CAPACITORS IN µF 50WV (M)
ALL INDUCTORS IN µH (K)
ALL DIODES ARE 1SS131T

VS-F600/A650 EOG-V
VPT
SCHEMATIC DIAGRAM
NO.19-16 V112315M


C
B
A
1
2
3
4
IC201
IC202
IC203
IC204
IC205
IC206
IC207
IC208
IC209
IC101
P02
94V0
V1117A5060

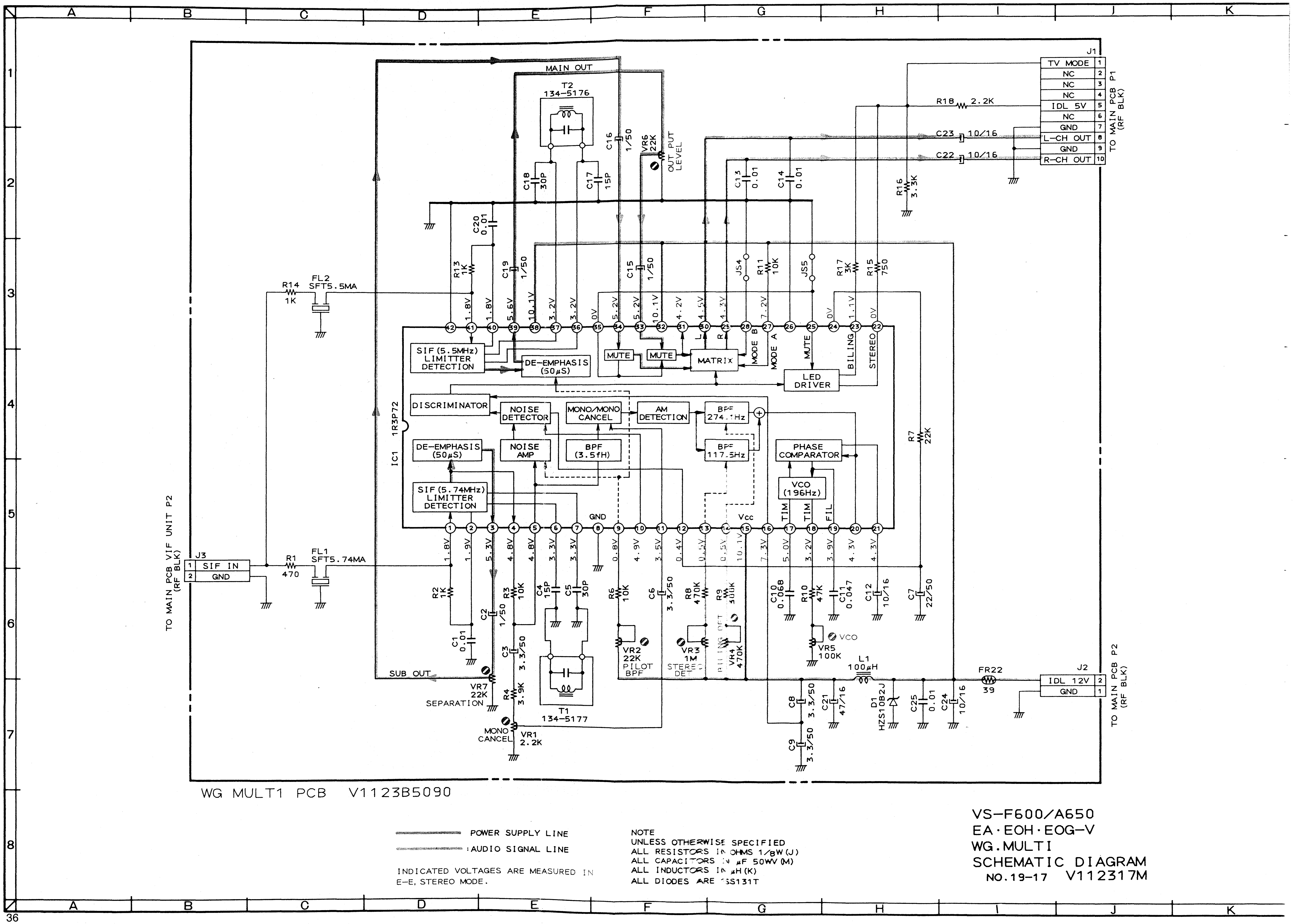
VPT PCB V1117A5060J1

PRINCIPAL PARTS LOCATION

ICS
IC202........A,B2
IC202........B3
IC203........B4
IC204........A3,4
IC205........A3
IC206........C3,4
IC207........C1,2
IC208........A2
IC209........A2

TRANSISTORS
TR101........C1
TR102........A2
TR301........C3
TR302........C2,3
TR303........C2,3
TR304........C2
TR305........C2
TR401........B4
TR402........B4
TR403........B4
TR501........C3
TR502........C3
TR503........C3
TR504........B3
TR505........B3

CONNECTORS & WIRES
WP101........C1
P102.........C3
P103.........B2
P104.........A2,3



A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
J1
TV MODE
NC
NC
NC
IDL 5V
NC
GND
L-CH OUT
GND
R-CH OUT
TO MAIN PCB P1 (RF BLK)
R18 2.2K
C23 10/16
C22 10/16
R16 3.3K
MAIN OUT
T2 134-5176
C18 30P
C17 15P
C16 1/50
VR6 22K
OUT PUT LEVEL
C13 0.01
C14 0.01
C20 0.01
R13 1K
C19 1/50
C15 1/50
JS4
R11 10K
JS5
R17 3K
R15 750
R14 1K
FL2 SFT5.5MA
1.8V
1.8V
5.6V
10.1V
3.2V
3.2V
0V
5.2V
5.2V
10.1V
4.2V
4.5V
4.3V
7.2V
0V
1.1V
0V
SIF (5.5MHz) LIMITTER DETECTION
DE-EMPHASIS (50μS)
MUTE
MUTE
MATRIX
L
R
MODE B
MODE A
MUTE
BILING
STEREO
LED DRIVER
DISCRIMINATOR
NOISE DETECTOR
MONO/MONO CANCEL
AM DETECTION
BPF 274.1Hz
BPF 117.5Hz
PHASE COMPARATOR
VCO (196Hz)
DE-EMPHASIS (50μS)
NOISE AMP
BPF (3.5fH)
SIF (5.74MHz) LIMITTER DETECTION
IC1 1R3P72
R7 22K
GND
Vcc
TIM
TIM
FIL
1.8V
1.9V
5.3V
4.8V
4.8V
3.3V
3.3V
0.8V
4.9V
3.5V
0.4V
0.5V
0.5V
10.1V
7.3V
5.0V
3.2V
3.9V
4.3V
4.3V
TO MAIN PCB VIF UNIT P2 (RF BLK)
J3
SIF IN
GND
R1 470
FL1 SFT5.74MA
R2 1K
C1 0.01
C2 1/50
R3 10K
C3 3.3/50
C4 15P
C5 30P
R6 10K
C6 3.3/50
R8 470K
R9 300K
C10 0.068
R10 47K
C11 0.047
C12 10/16
C7 22/50
VR2 22K PILOT BPF
VR3 1M STEREO DET
BILING DET
VR4 470K
VR5 100K
VCO
SUB OUT
VR7 22K SEPARATION
R4 3.9K
T1 134-5177
MONO CANCEL
VR1 2.2K
L1 100μH
C8 3.3/50
C9 3.3/50
C21 47/16
D1 HZS10B2J
C25 0.01
C24 10/16
FR22 39
J2
IDL 12V
GND
TO MAIN PCB P2 (RF BLK)

WG MULT1 PCB V1123B5090

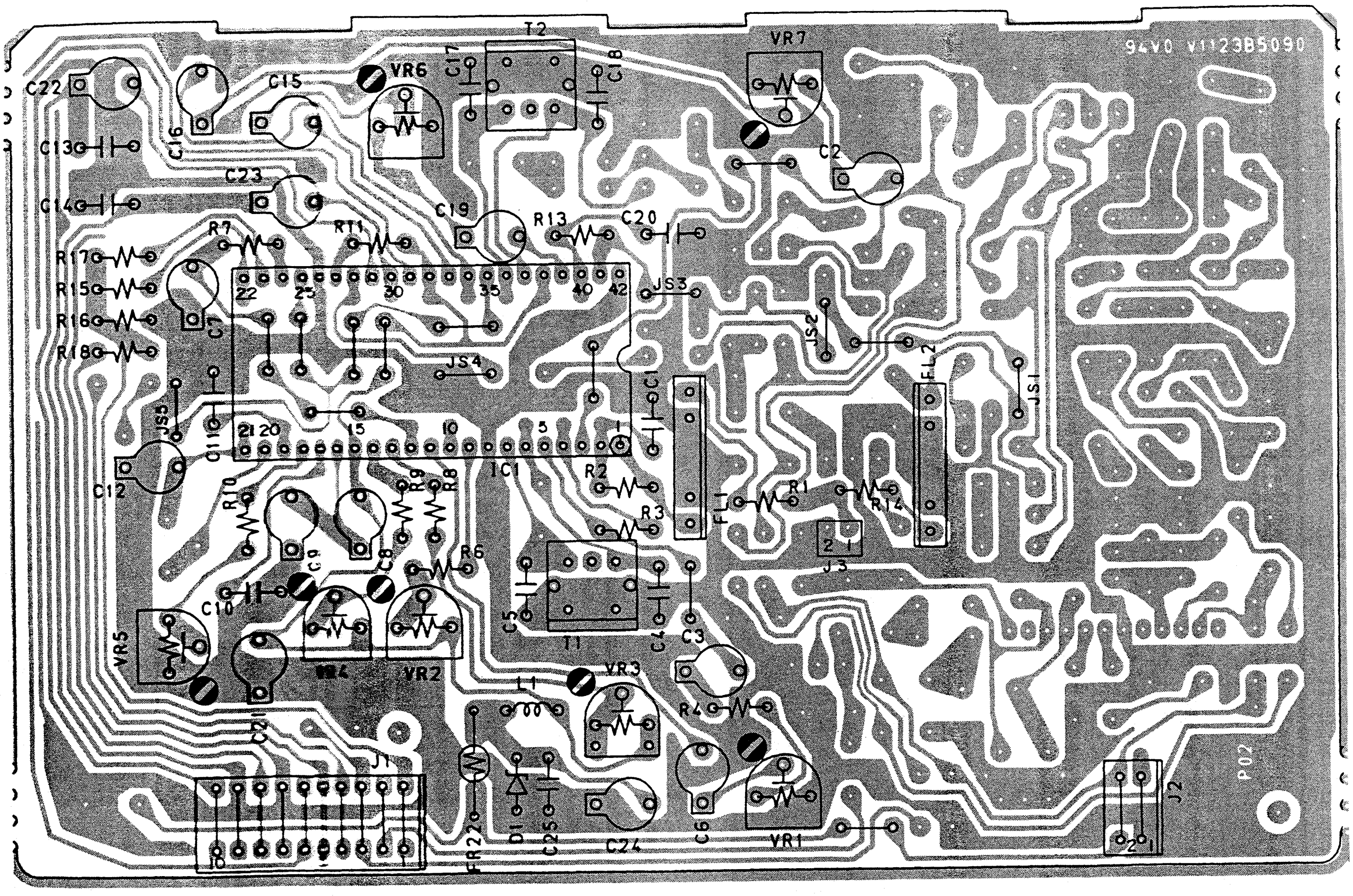
━ POWER SUPPLY LINE

━ :AUDIO SIGNAL LINE

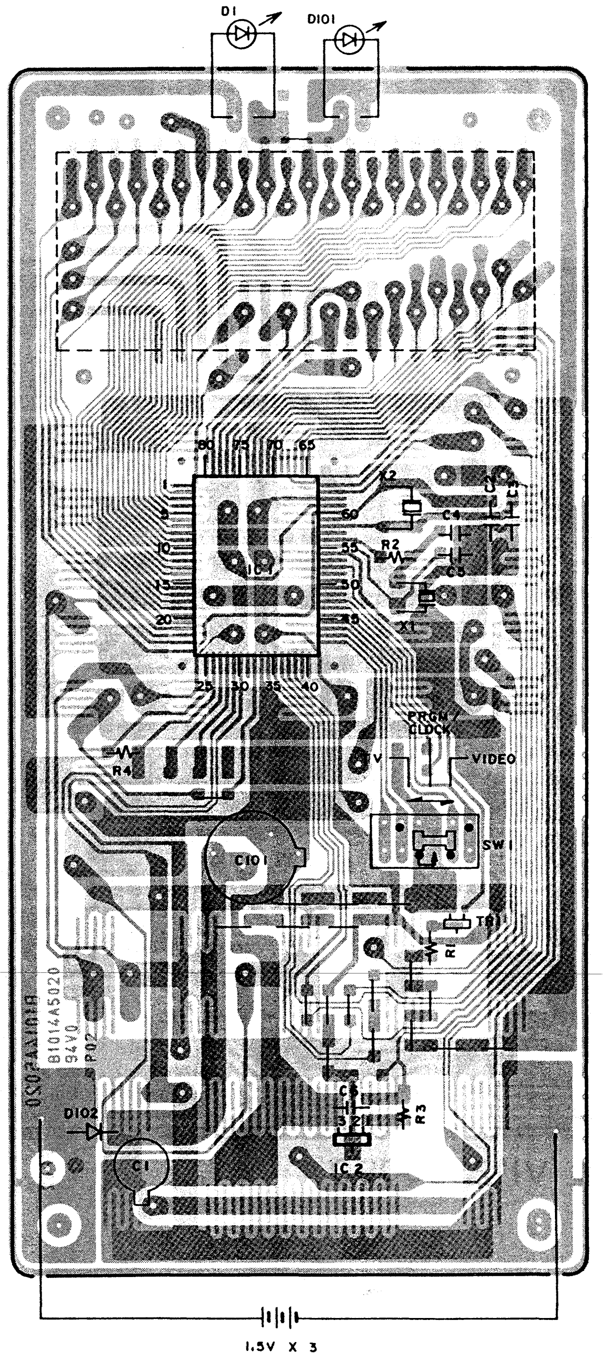
INDICATED VOLTAGES ARE MEASURED IN E-E, STEREO MODE.

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)
ALL CAPACITORS IN μF 50WV (M)
ALL INDUCTORS IN μH (K)
ALL DIODES ARE 1SS131T

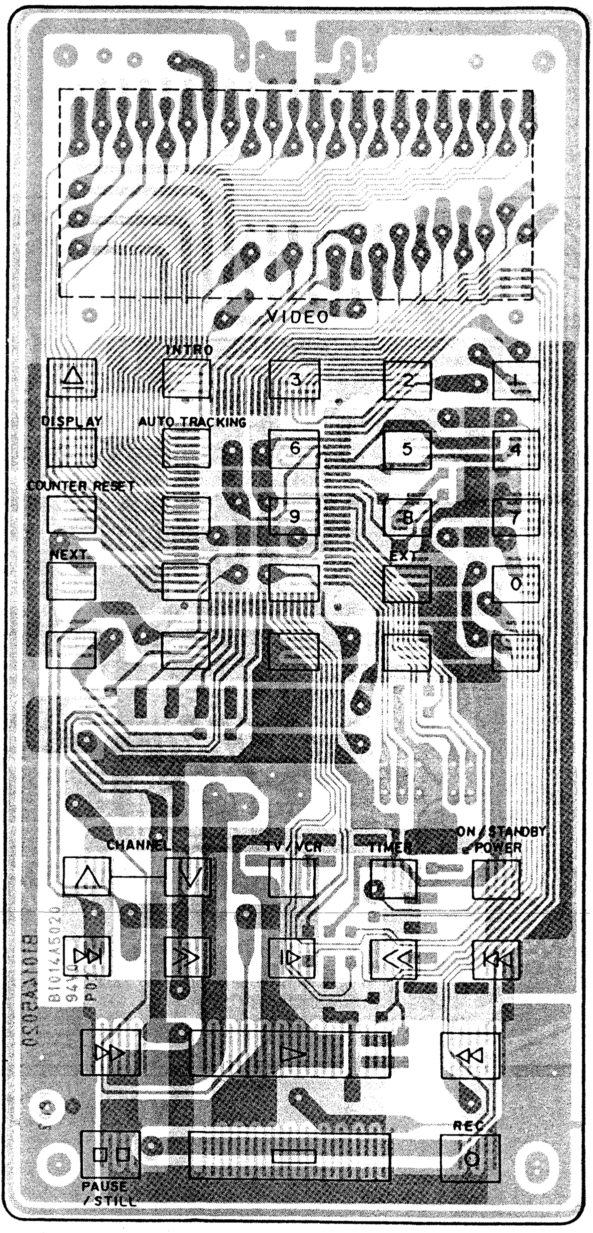
VS-F600/A650
EA·EOH·EOG-V
WG.MULTI
SCHEMATIC DIAGRAM
NO.19-17 V112317M


94V0 V1123B5090
P02
C22
C16
C15
VR6
C17
T2
C18
VR7
C2
C13
C14
C23
C19
R13
C20
R7
R11
R17
R15
R16
R18
C7
22
25
30
35
40
42
JS3
JS2
FL2
JS1
JS4
C1
JS5
C11
21
20
15
10
5
1
IC1
C12
R10
R9
R8
R2
R1
R14
FL1
R3
J3
C9
C8
R6
C10
C5
T1
C4
C3
VR5
VR4
VR2
VR3
L1
R4
C21
J1
FR22
D1
C25
C24
C6
VR1
J2
10

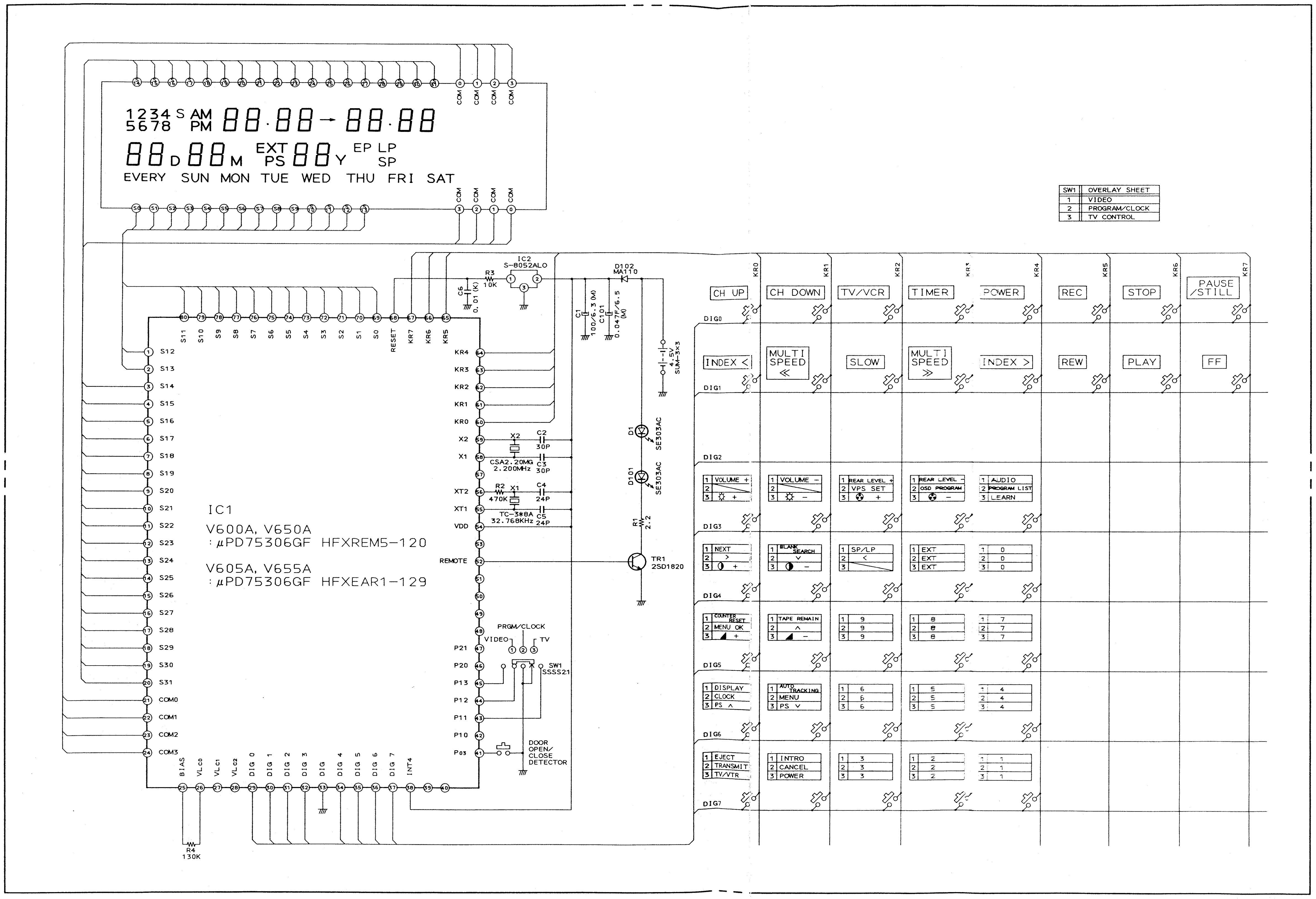
WG MULTI PCB V1123B5090


D1
D101
1
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
IC1
X2
C2
C3
C4
C5
R2
X1
PRGM/CLOCK
TV
VIDEO
SW1
C101
TR1
R1
R4
C6
R3
IC2
D102
C1
B1014A5020
94V0
P02
B1017A5020
1.5V X 3

REMO-CON PCB B1014A5020J2
(PARTS VIEW)


VIDEO
INTRO
3
2
1
DISPLAY
AUTO TRACKING
6
5
4
COUNTER RESET
9
8
7
NEXT
EXT.
0
CHANNEL
TV/VCR
TIMER
ON/STANDBY POWER
REC
PAUSE/STILL
B1014A5020
94V0
P02
B1017A5020

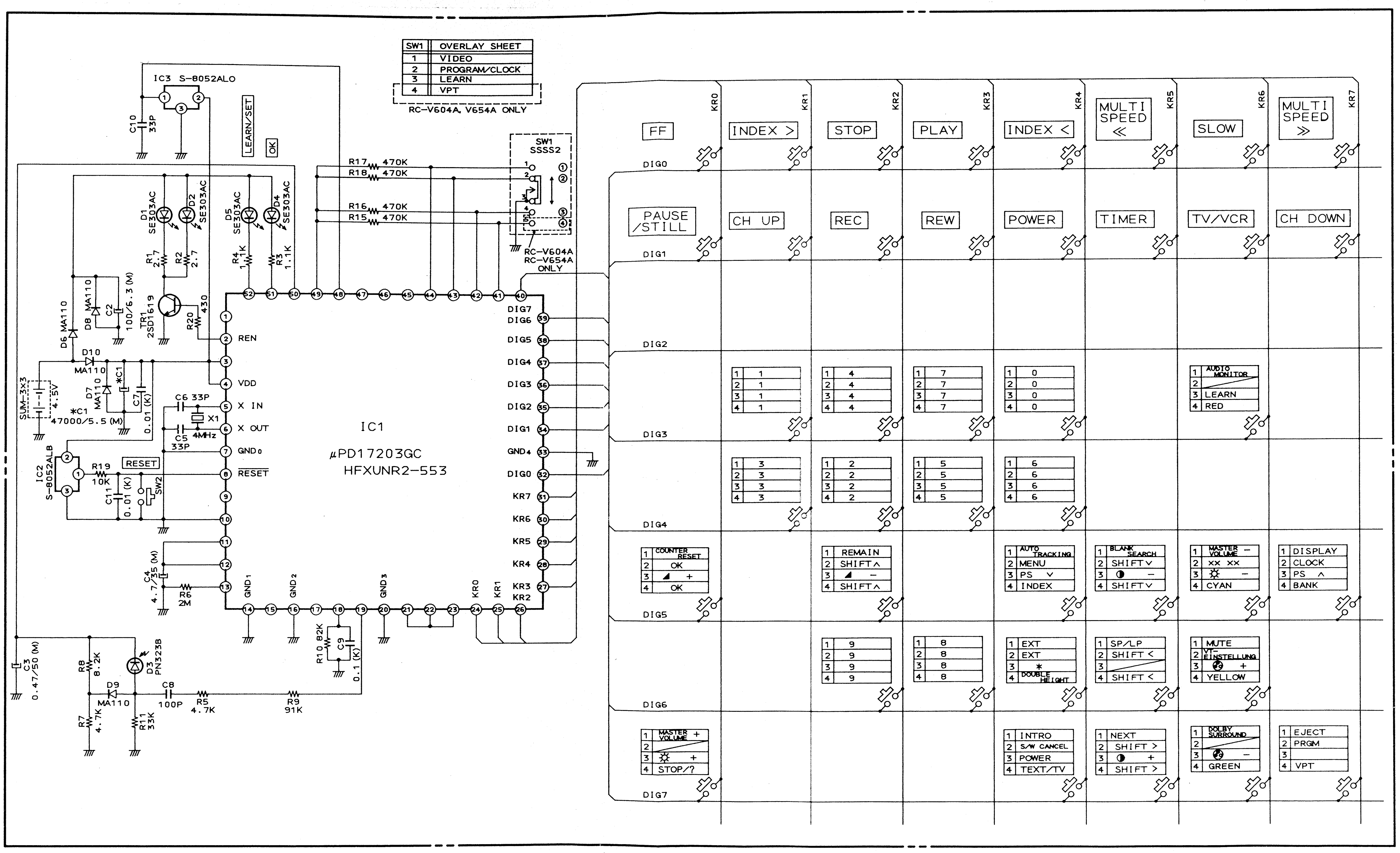
REMO-CON PCB B1014A5020J2
(SWITCH LOCATION)


1234 S AM 5678 PM 88·88 → 88·88
88 D 88 M EXT PS 88 Y EP LP SP
EVERY SUN MON TUE WED THU FRI SAT
COM
IC1
V600A, V650A
: µPD75306GF HFXREM5-120
V605A, V655A
: µPD75306GF HFXEAR1-129
S0 S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11
S12 S13 S14 S15 S16 S17 S18 S19 S20 S21 S22 S23 S24 S25 S26 S27 S28 S29 S30 S31
COM0 COM1 COM2 COM3
BIAS VLc0 VLc1 VLc2
DIG 0 DIG 1 DIG 2 DIG 3 DIG DIG 4 DIG 5 DIG 6 DIG 7 INT4
RESET KR7 KR6 KR5
KR4 KR3 KR2 KR1 KR0
X2 X1 XT2 XT1 VDD REMOTE
P21 P20 P13 P12 P11 P10 P03
IC2 S-8052ALO
R3 10K
C6 0.01 (K)
C1 100/6.3 (M)
C101 0.047F/6.5 (M)
D102 MA110
4.5V SUM-3×3
D1 SE303AC
D101 SE303AC
R1 2.2
TR1 2SD1820
X2 CSA2.20MG 2.200MHz
C2 30P
C3 30P
R2 470K
X1 TC-3*8A 32.768KHz
C4 24P
C5 24P
PRGM/CLOCK
VIDEO
TV
SW1 SSSS21
DOOR OPEN/ CLOSE DETECTOR
R4 130K
SW1 | OVERLAY SHEET
1 | VIDEO
2 | PROGRAM/CLOCK
3 | TV CONTROL
KR0 KR1 KR2 KR3 KR4 KR5 KR6 KR7
DIG0 DIG1 DIG2 DIG3 DIG4 DIG5 DIG6 DIG7
CH UP
CH DOWN
TV/VCR
TIMER
POWER
REC
STOP
PAUSE /STILL
INDEX <
MULTI SPEED ≪
SLOW
MULTI SPEED ≫
INDEX >
REW
PLAY
FF
1 VOLUME + 2 3 ☼ +
1 VOLUME − 2 3 ☼ −
1 REAR LEVEL + 2 VPS SET 3 +
1 REAR LEVEL − 2 OSD PROGRAM 3 −
1 AUDIO 2 PROGRAM LIST 3 LEARN
1 NEXT 2 > 3 +
1 BLANK SEARCH 2 ∨ 3 −
1 SP/LP 2 < 3
1 EXT 2 EXT 3 EXT
1 0 2 0 3 0
1 COUNTER RESET 2 MENU OK 3 +
1 TAPE REMAIN 2 ∧ 3 −
1 9 2 9 3 9
1 8 2 8 3 8
1 7 2 7 3 7
1 DISPLAY 2 CLOCK 3 PS ∧
1 AUTO TRACKING 2 MENU 3 PS ∨
1 6 2 6 3 6
1 5 2 5 3 5
1 4 2 4 3 4
1 EJECT 2 TRANSMIT 3 TV/VTR
1 INTRO 2 CANCEL 3 POWER
1 3 2 3 3 3
1 2 2 2 3 2
1 1 2 1 3 1
A B C D E F G H I J K
1 2 3 4 5 6 7 8

REMO-CON PCB B1014A5020

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)
ALL CAPACITORS IN µF 50WV (J)

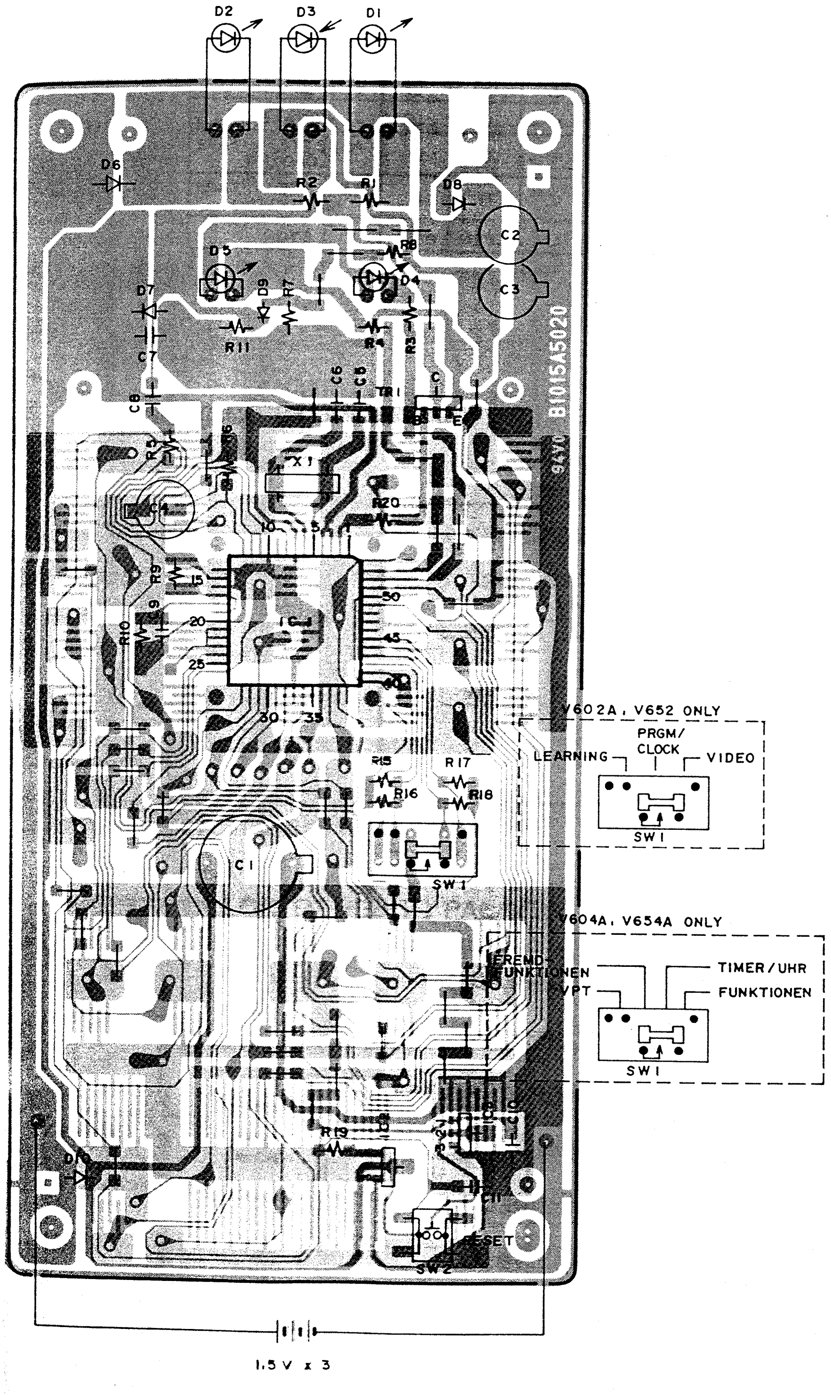
RC-V600A/V605A
RC-V650A/V655A
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM
NO.19-18 B101404M


IC3 S-8052ALO
C10 33P
LEARN/SET
OK
SW1 | OVERLAY SHEET
1 | VIDEO
2 | PROGRAM/CLOCK
3 | LEARN
4 | VPT
RC-V604A, V654A ONLY
SW1 SSSS2
RC-V604A RC-V654A ONLY
R17 470K
R18 470K
R16 470K
R15 470K
D1 SE303AC
D2 SE303AC
D5 SE303AC
D4 SE303AC
R1 2.7
R2 2.7
R4 1.1K
R3 1.1K
TR1 2SD1619
R20 430
D6 MA110
D8 MA110
C2 100/6.3 (M)
D10 MA110
D7 MA110
*C1 47000/5.5 (M)
C7 0.01 (K)
SUM-3X3 4.5V
C6 33P
X1 4MHz
C5 33P
IC2 S-8052ALB
R19 10K
RESET
C11 0.01 (K)
SW2
C4 4.7/35 (M)
R6 2M
IC1
µPD17203GC
HFXUNR2-553
REN
VDD
X IN
X OUT
GND0
RESET
GND1
GND2
GND3
GND4
KR0
KR1
KR2
KR3
KR4
KR5
KR6
KR7
DIG0
DIG1
DIG2
DIG3
DIG4
DIG5
DIG6
DIG7
R10 82K
C9 0.1 (K)
C3 0.47/50 (M)
R8 8.2K
D3 PN323B
D9 MA110
C8 100P
R5 4.7K
R9 91K
R7 4.7K
R11 33K
FF
INDEX >
STOP
PLAY
INDEX <
MULTI SPEED ≪
SLOW
MULTI SPEED ≫
PAUSE /STILL
CH UP
REC
REW
POWER
TIMER
TV/VCR
CH DOWN
1 COUNTER RESET
2 OK
3 +
4 OK
1 REMAIN
2 SHIFT∧
3 −
4 SHIFT∧
1 AUTO TRACKING
2 MENU
3 PS ∨
4 INDEX
1 BLANK SEARCH
2 SHIFT∨
3 −
4 SHIFT∨
1 MASTER VOLUME −
2 XX XX
3 ☼ −
4 CYAN
1 DISPLAY
2 CLOCK
3 PS ∧
4 BANK
1 AUDIO MONITOR
3 LEARN
4 RED
1 EXT
2 EXT
3 *
4 DOUBLE HEIGHT
1 SP/LP
2 SHIFT <
4 SHIFT <
1 MUTE
2 VT-EINSTELLUNG
3 +
4 YELLOW
1 MASTER VOLUME +
3 ☼ +
4 STOP/?
1 INTRO
2 S/W CANCEL
3 POWER
4 TEXT/TV
1 NEXT
2 SHIFT >
3 +
4 SHIFT >
1 DOLBY SURROUND
3 −
4 GREEN
1 EJECT
2 PRGM
4 VPT
A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8

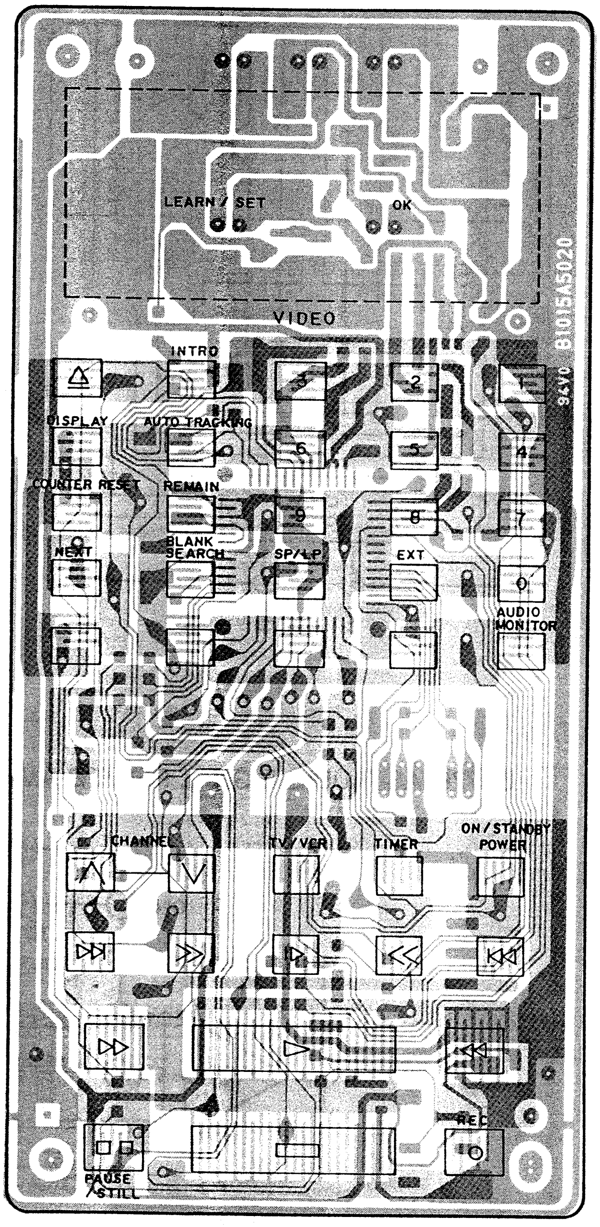
REMO-CON PCB B1015A5020

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)
ALL CAPACITORS IN µF 50WV (J)

RC-V602/V604A
RC-V652/V654A
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM
NO.19-19 B101501M

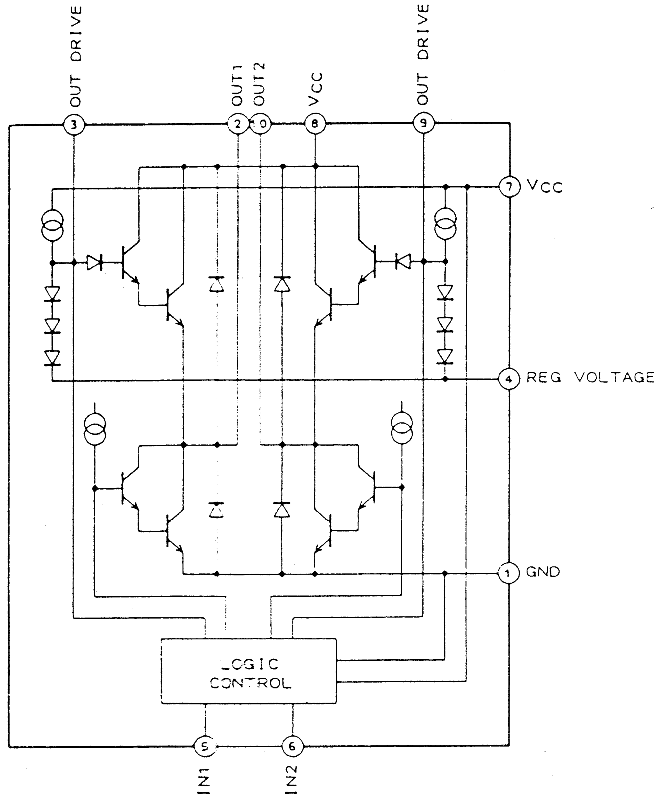

D2
D3
D1
D6
R2
R1
D8
C2
C3
D5
D9
R7
R8
D4
D7
R11
R4
R3
C7
C8
C6
C5
TR1
C
B
E
B1015A5020
94V0
R5
R6
X1
R20
R9
R10
IC1
10
5
1
15
20
25
30
35
40
45
50
V602A, V652 ONLY
PRGM/
CLOCK
LEARNING
VIDEO
SW1
R15
R16
R17
R18
C1
V604A, V654A ONLY
FREMD-
FUNKTIONEN
VPT
TIMER/UHR
FUNKTIONEN
R19
C11
RESET
SW2
1.5 V x 3

REMO-CON PCB B1015A5020
(PARTS VIEW)


LEARN/SET
OK
VIDEO
B1015A5020
94V0
INTRO
3
2
1
DISPLAY
AUTO TRACKING
6
5
4
COUNTER RESET
REMAIN
9
8
7
NEXT
BLANK
SEARCH
SP/LP
EXT
0
AUDIO
MONITOR
CHANNEL
TV/VCR
TIMER
ON/STANDBY
POWER
REC
PAUSE
/STILL

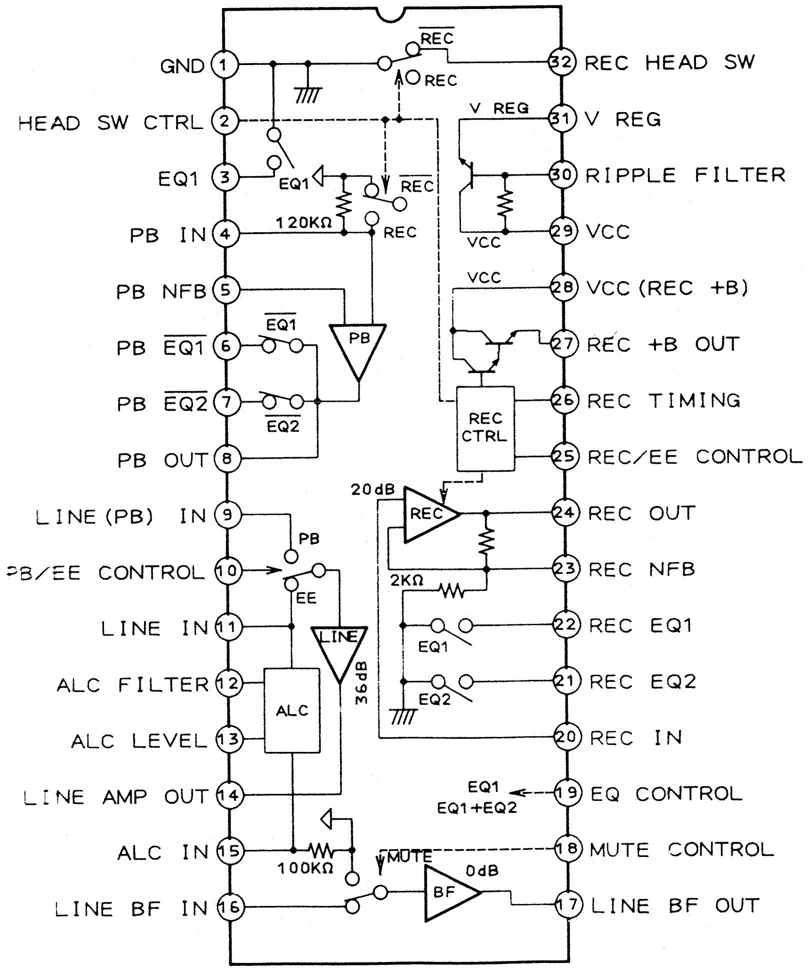
REMO-CON PCB B1015A5020
(SWITCH LOCATION)

BA6229 (BI-DIRECTIONAL MOTOR DRIVE)

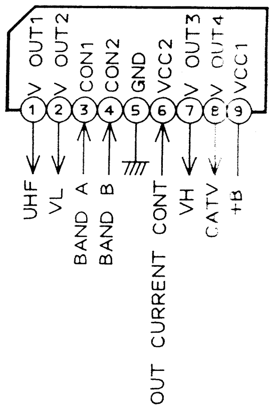

OUT DRIVE
③
OUT1
②
OUT2
⑩
VCC
⑧
OUT DRIVE
⑨
⑦ VCC
④ REG VOLTAGE
① GND
LOGIC CONTROL
⑤
IN1
⑥
IN2

INPUT		OUTPUT		MODE
⑤	⑥	②	⑩	
H	H	L	L	BRAKE
L	H	L	H	CASSETTE & TAPE LOADING
H	L	H	L	CASSETTE & TAPE UNLOADING
L	L	OPEN	OPEN	STOP

BA7765AS (AUDIO SIGNAL REC/PB AMPLIFIER)


GND ①
HEAD SW CTRL ②
EQ1 ③
PB IN ④
PB NFB ⑤
PB EQ1 ⑥
PB EQ2 ⑦
PB OUT ⑧
LINE (PB) IN ⑨
PB/EE CONTROL ⑩
LINE IN ⑪
ALC FILTER ⑫
ALC LEVEL ⑬
LINE AMP OUT ⑭
ALC IN ⑮
LINE BF IN ⑯
㉜ REC HEAD SW
㉛ V REG
㉚ RIPPLE FILTER
㉙ VCC
㉘ VCC (REC +B)
㉗ REC +B OUT
㉖ REC TIMING
㉕ REC/EE CONTROL
㉔ REC OUT
㉓ REC NFB
㉒ REC EQ1
㉑ REC EQ2
⑳ REC IN
⑲ EQ CONTROL
⑱ MUTE CONTROL
⑰ LINE BF OUT
REC
REC
V REG
VCC
VCC
EQ1
REC
120KΩ
REC
EQ1
PB
EQ2
REC CTRL
20dB
REC
PB
EE
2KΩ
EQ1
EQ2
LINE
36dB
ALC
EQ1
EQ1+EQ2
MUTE
100KΩ
0dB
BF

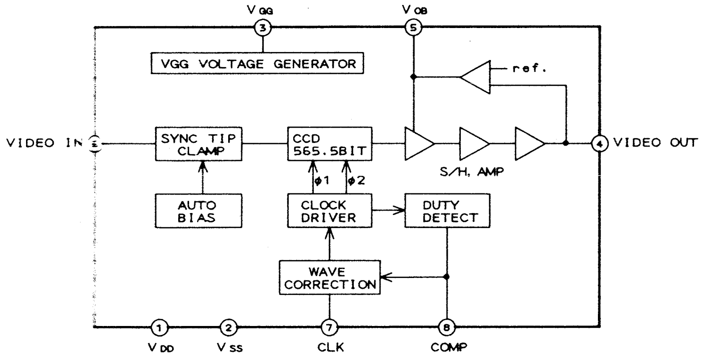
LA7910 (TUNER BAND SELECTOR)


V OUT1
V OUT2
CON1
CON2
GND
VCC2
V OUT3
V OUT4
VCC1
1
2
3
4
5
6
7
8
9
UHF
VL
BAND A
BAND B
OUT CURRENT CONT
VH
CATV
+B

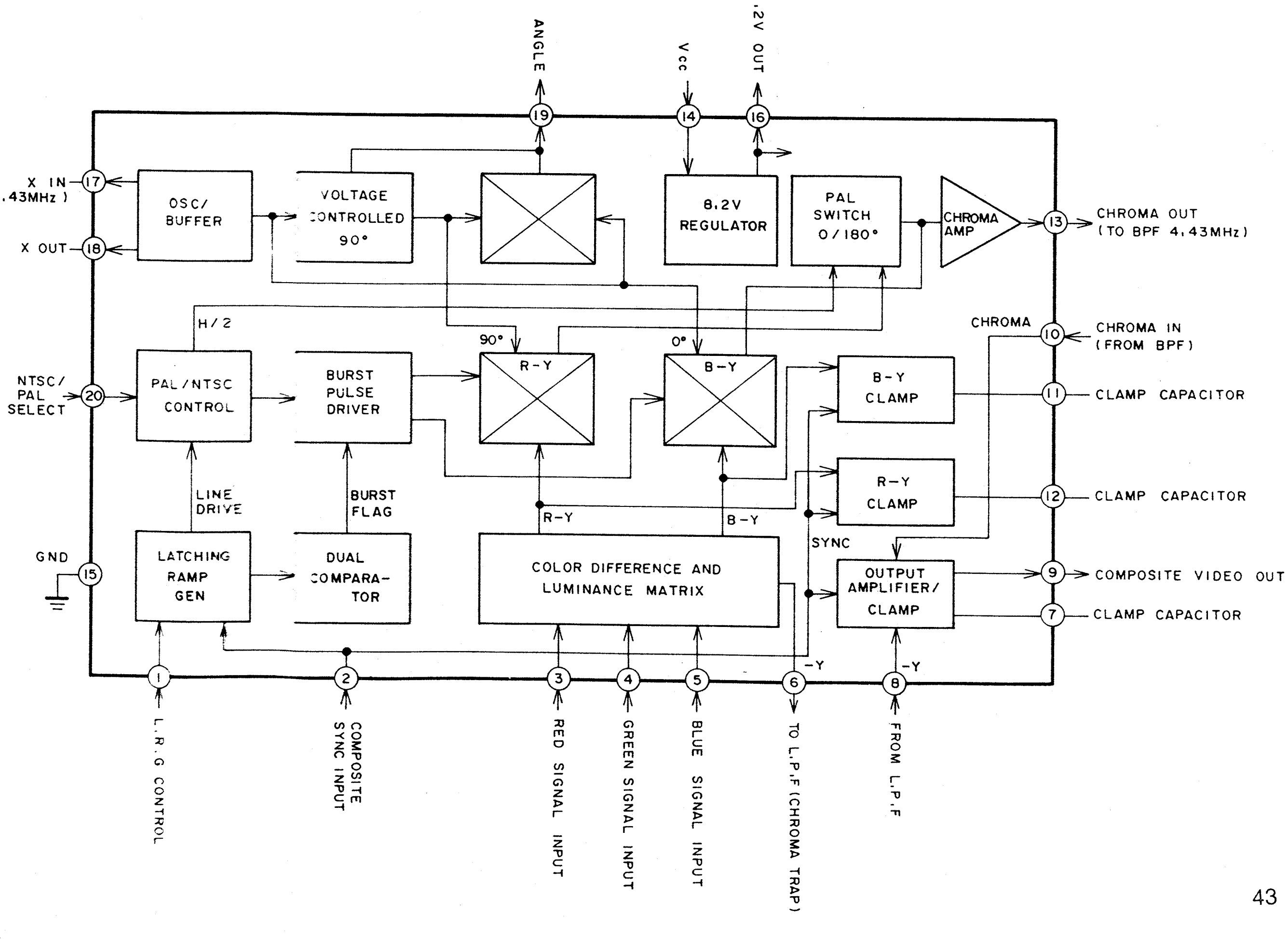
INPUT		OUTPUT			
CON1	CON2	V OUT1	V OUT2	V OUT3	V OUT4
L	L	H	Z	Z	Z
H	L	Z	H	Z	Z
L	H	Z	Z	H	Z
H	H	Z	Z	Z	H

Z: HIGH IMPEDANCE

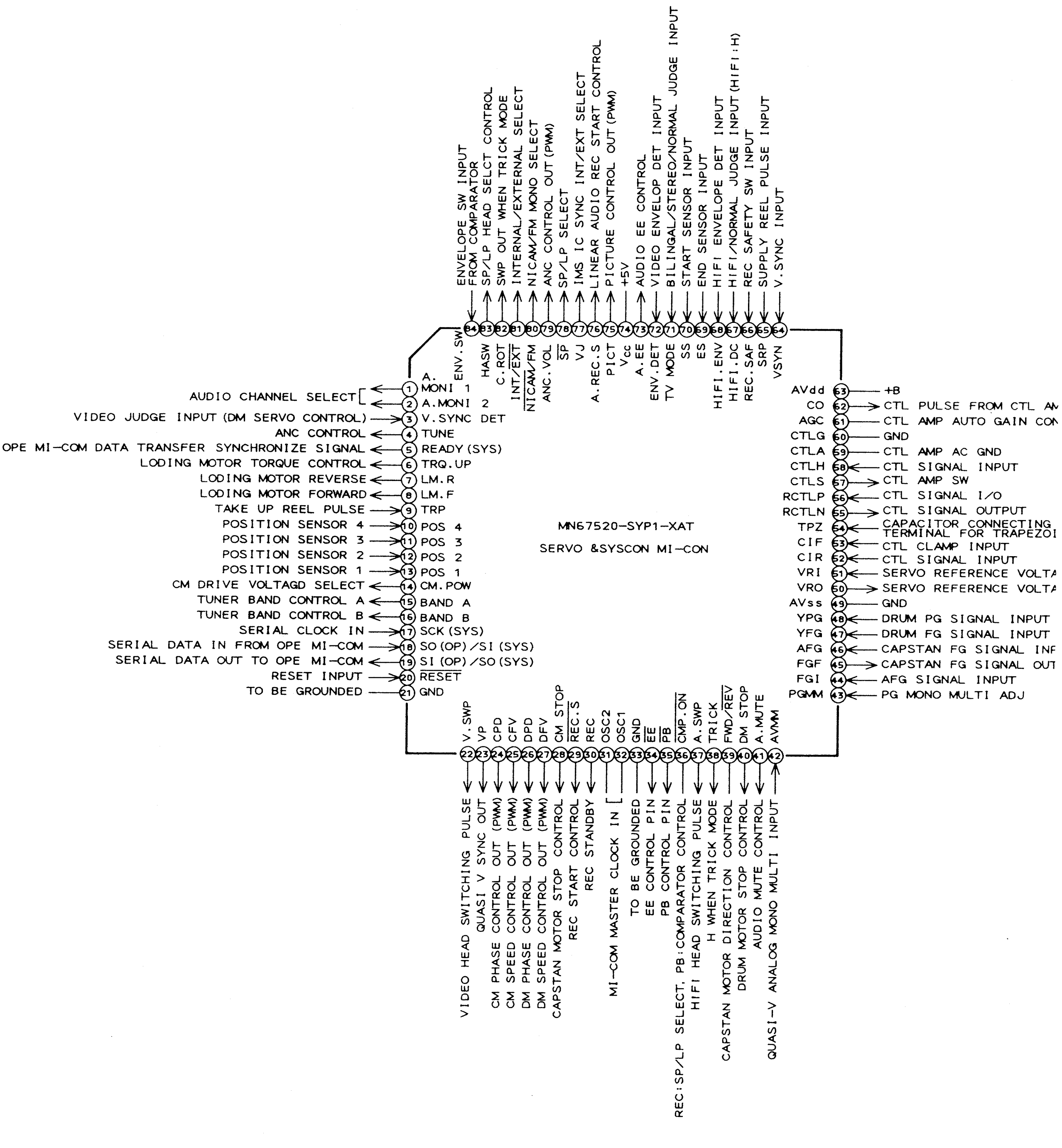
LC8992 (CCD 1H DELAY LINE)


V GG
V OB
3
5
VGG VOLTAGE GENERATOR
ref.
VIDEO IN
SYNC TIP CLAMP
CCD 565.5BIT
VIDEO OUT
4
ϕ1
ϕ2
S/H, AMP
AUTO BIAS
CLOCK DRIVER
DUTY DETECT
WAVE CORRECTION
1
2
7
8
V DD
V SS
CLK
COMP

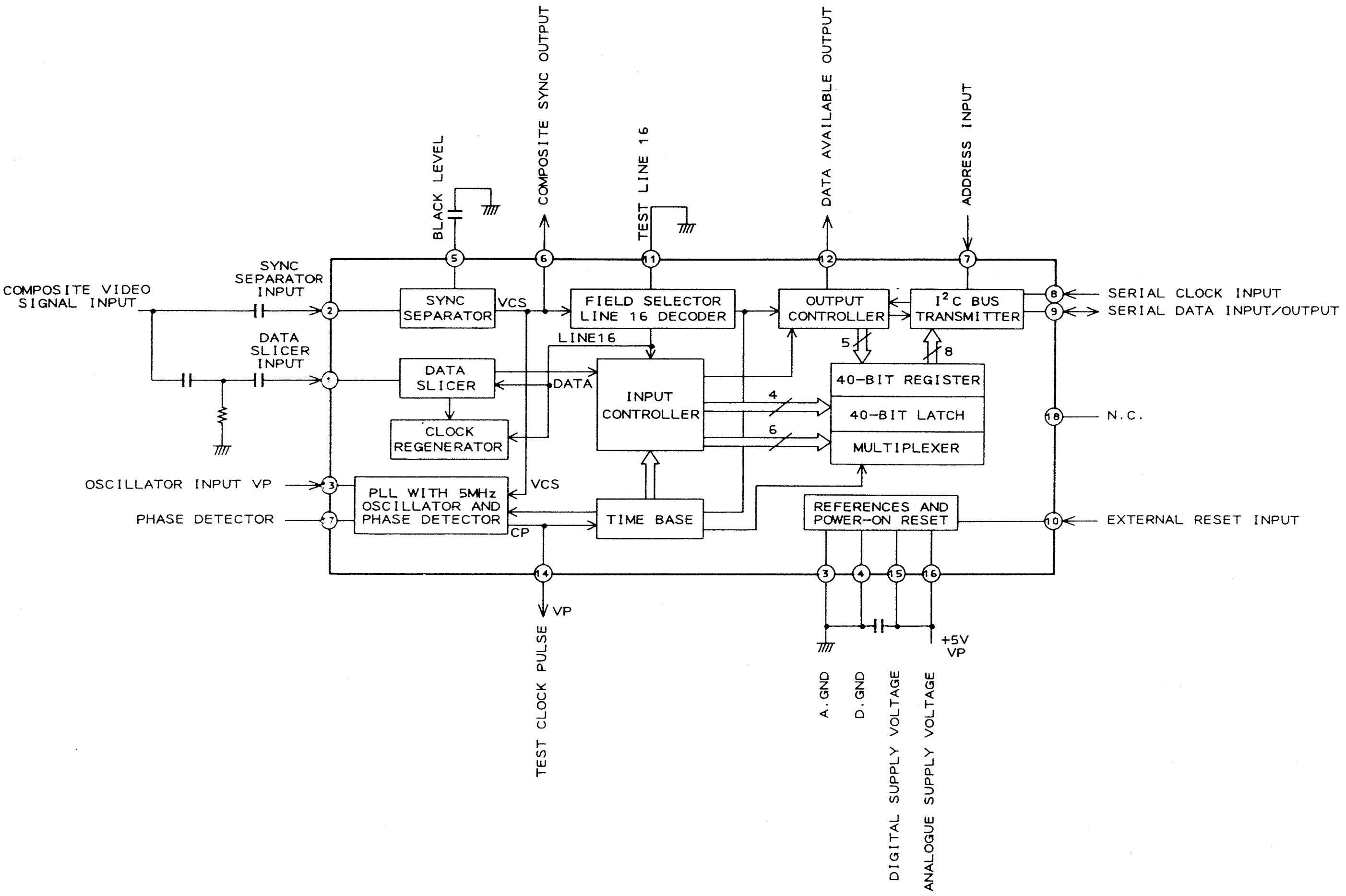
MC1377 (COLOR TV RGB TO PAL/NTSC ENCODER)


ANGLE
Vcc
8.2V OUT
19
14
16
X IN
(4.43MHz)
17
X OUT
18
OSC/ BUFFER
VOLTAGE CONTROLLED 90°
8.2V REGULATOR
PAL SWITCH 0/180°
CHROMA AMP
13
CHROMA OUT (TO BPF 4.43MHz)
H/2
90°
0°
R-Y
B-Y
CHROMA
10
CHROMA IN (FROM BPF)
NTSC/ PAL SELECT
20
PAL/NTSC CONTROL
BURST PULSE DRIVER
B-Y CLAMP
11
CLAMP CAPACITOR
R-Y CLAMP
12
CLAMP CAPACITOR
LINE DRIVE
BURST FLAG
R-Y
B-Y
SYNC
GND
15
LATCHING RAMP GEN
DUAL COMPARATOR
COLOR DIFFERENCE AND LUMINANCE MATRIX
OUTPUT AMPLIFIER/ CLAMP
9
COMPOSITE VIDEO OUT
7
CLAMP CAPACITOR
-Y
-Y
1
2
3
4
5
6
8
L.R.G CONTROL
COMPOSITE SYNC INPUT
RED SIGNAL INPUT
GREEN SIGNAL INPUT
BLUE SIGNAL INPUT
TO L.P.F (CHROMA TRAP)
FROM L.P.F

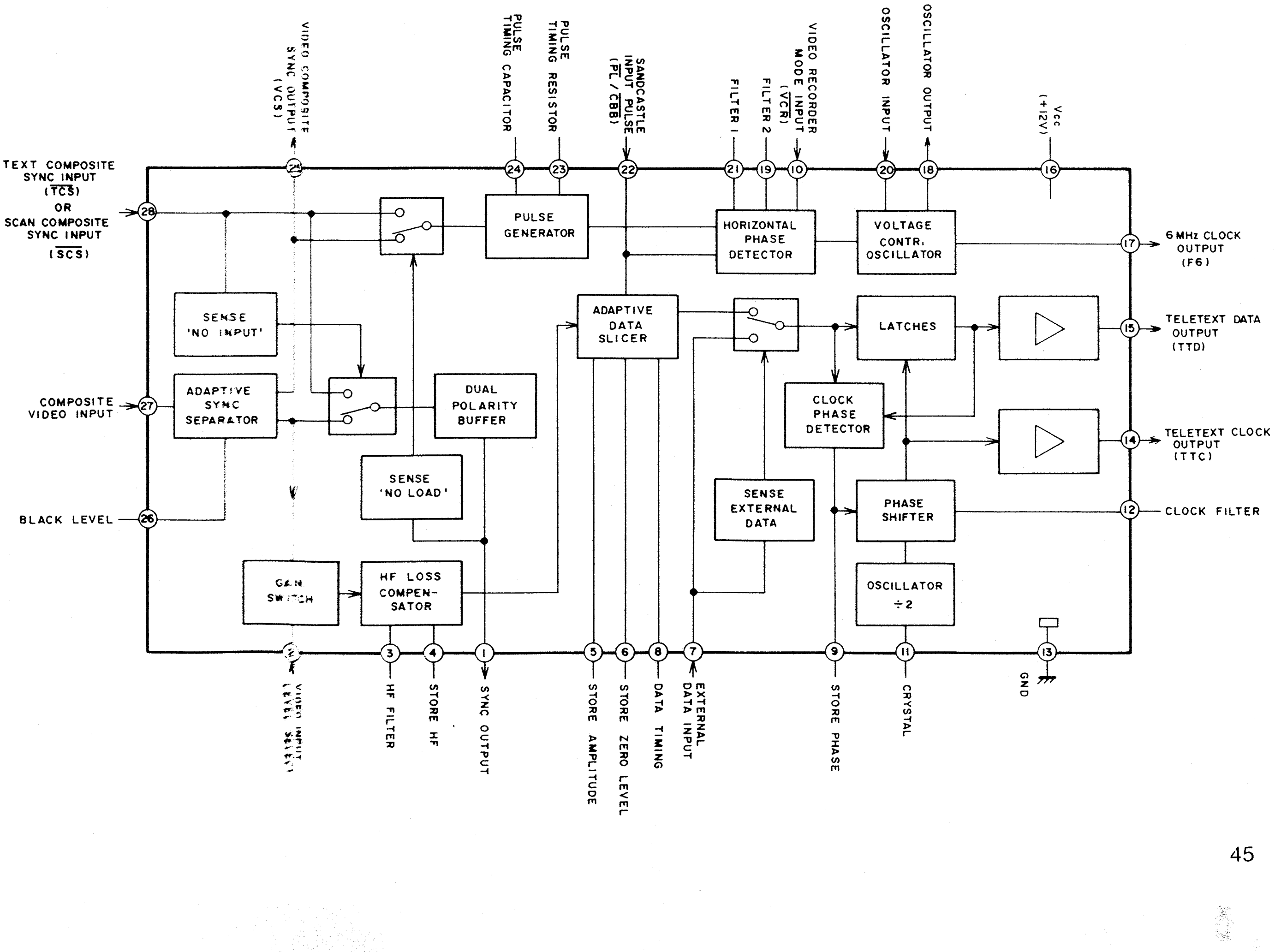
MN67520 HFX SYP1 (SERVO/SYSCON MI-COM)


MN67520-SYP1-XAT
SERVO &SYSCON MI-CON
AUDIO CHANNEL SELECT
1 A. MONI 1
2 A.MONI 2
VIDEO JUDGE INPUT (DM SERVO CONTROL) 3 V.SYNC DET
ANC CONTROL 4 TUNE
OPE MI-COM DATA TRANSFER SYNCHRONIZE SIGNAL 5 READY (SYS)
LODING MOTOR TORQUE CONTROL 6 TRQ.UP
LODING MOTOR REVERSE 7 LM.R
LODING MOTOR FORWARD 8 LM.F
TAKE UP REEL PULSE 9 TRP
POSITION SENSOR 4 10 POS 4
POSITION SENSOR 3 11 POS 3
POSITION SENSOR 2 12 POS 2
POSITION SENSOR 1 13 POS 1
CM DRIVE VOLTAGD SELECT 14 CM.POW
TUNER BAND CONTROL A 15 BAND A
TUNER BAND CONTROL B 16 BAND B
SERIAL CLOCK IN 17 SCK (SYS)
SERIAL DATA IN FROM OPE MI-COM 18 SO (OP) /SI (SYS)
SERIAL DATA OUT TO OPE MI-COM 19 SI (OP) /SO (SYS)
RESET INPUT 20 RESET
TO BE GROUNDED 21 GND
22 V.SWP VIDEO HEAD SWITCHING PULSE
23 VP QUASI V SYNC OUT
24 CPD CM PHASE CONTROL OUT (PWM)
25 CFV CM SPEED CONTROL OUT (PWM)
26 DPD DM PHASE CONTROL OUT (PWM)
27 DFV DM SPEED CONTROL OUT (PWM)
28 CM STOP CAPSTAN MOTOR STOP CONTROL
29 REC.S REC START CONTROL
30 REC REC STANDBY
31 OSC2
32 OSC1
MI-COM MASTER CLOCK IN
33 GND TO BE GROUNDED
34 EE EE CONTROL PIN
35 PB PB CONTROL PIN
36 CMP.ON REC:SP/LP SELECT, PB:COMPARATOR CONTROL
37 A.SWP HIFI HEAD SWITCHING PULSE
38 TRICK H WHEN TRICK MODE
39 FWD/REV CAPSTAN MOTOR DIRECTION CONTROL
40 DM STOP DRUM MOTOR STOP CONTROL
41 A.MUTE AUDIO MUTE CONTROL
42 AVMM QUASI-V ANALOG MONO MULTI INPUT
PGMM 43 PG MONO MULTI ADJ
FGI 44 AFG SIGNAL INPUT
FGF 45 CAPSTAN FG SIGNAL OUT
AFG 46 CAPSTAN FG SIGNAL INF
YFG 47 DRUM FG SIGNAL INPUT
YPG 48 DRUM PG SIGNAL INPUT
AVss 49 GND
VRO 50 SERVO REFERENCE VOLTA
VRI 51 SERVO REFERENCE VOLTA
CIR 52 CTL SIGNAL INPUT
CIF 53 CTL CLAMP INPUT
TPZ 54 CAPACITOR CONNECTING TERMINAL FOR TRAPEZOI
RCTLN 55 CTL SIGNAL OUTPUT
RCTLP 56 CTL SIGNAL I/O
CTLS 57 CTL AMP SW
CTLH 58 CTL SIGNAL INPUT
CTLA 59 CTL AMP AC GND
CTLG 60 GND
AGC 61 CTL AMP AUTO GAIN CON
CO 62 CTL PULSE FROM CTL AM
AVdd 63 +B
64 VSYN V.SYNC INPUT
65 SRP SUPPLY REEL PULSE INPUT
66 REC.SAF REC SAFETY SW INPUT
67 HIFI.DC HIFI/NORMAL JUDGE INPUT (HIFI:H)
68 HIFI.ENV HIFI ENVELOPE DET INPUT
69 ES END SENSOR INPUT
70 SS START SENSOR INPUT
71 TV MODE BILINGAL/STEREO/NORMAL JUDGE INPUT
72 ENV.DET VIDEO ENVELOP DET INPUT
73 A.EE AUDIO EE CONTROL
74 Vcc +5V
75 PICT PICTURE CONTROL OUT (PWM)
76 A.REC.S LINEAR AUDIO REC START CONTROL
77 VJ IMS IC SYNC INT/EXT SELECT
78 SP SP/LP SELECT
79 ANC.VOL ANC CONTROL OUT (PWM)
80 NICAM/FM NICAM/FM MONO SELECT
81 INT/EXT INTERNAL/EXTERNAL SELECT
82 C.ROT SWP OUT WHEN TRICK MODE
83 HASW SP/LP HEAD SELCT CONTROL
FROM COMPARATOR
84 ENV.SW ENVELOPE SW INPUT

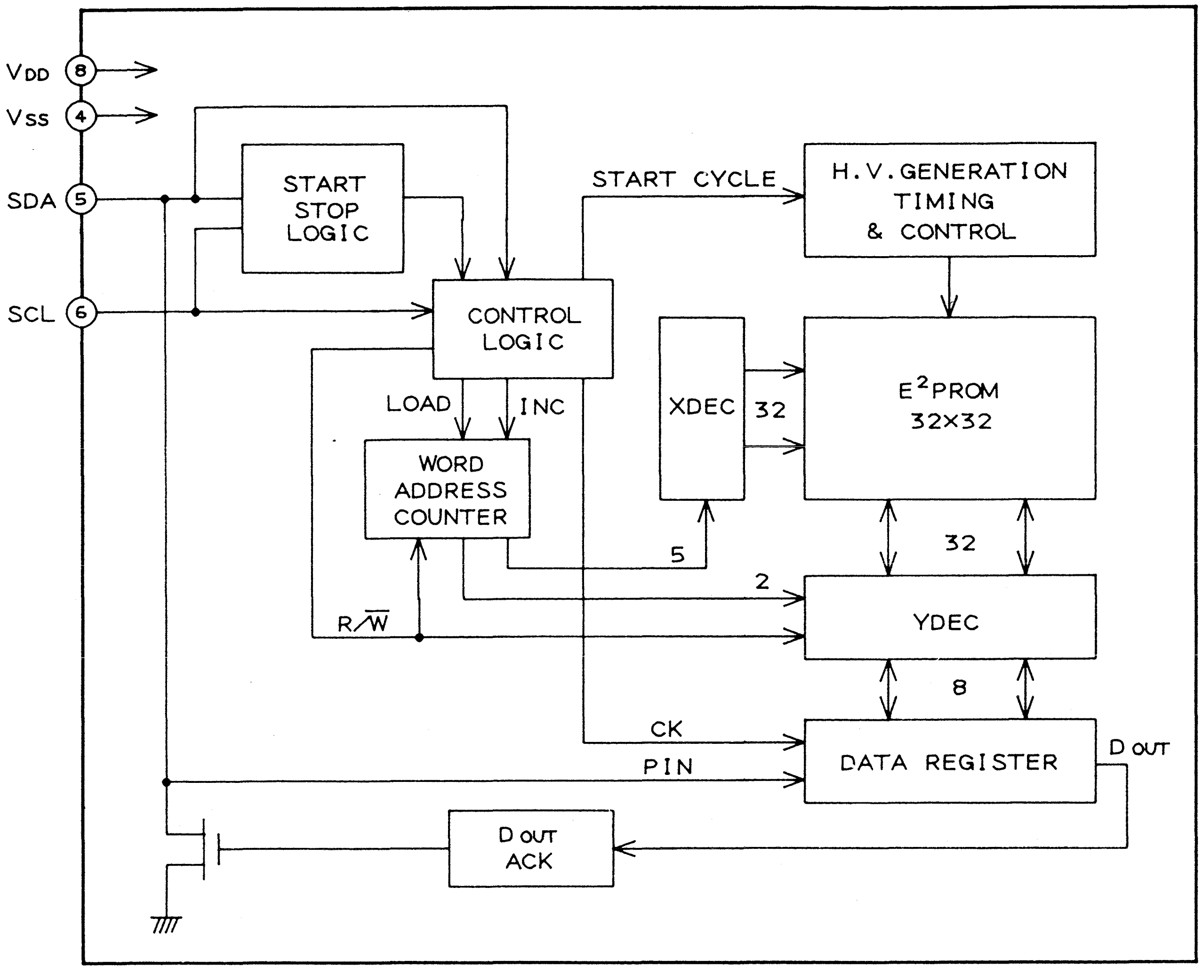
SAA4700 (VPS DATALINE PROCESSOR)


BLACK LEVEL
COMPOSITE SYNC OUTPUT
TEST LINE 16
DATA AVAILABLE OUTPUT
ADDRESS INPUT
COMPOSITE VIDEO SIGNAL INPUT
SYNC SEPARATOR INPUT
DATA SLICER INPUT
OSCILLATOR INPUT VP
PHASE DETECTOR
SYNC SEPARATOR
VCS
FIELD SELECTOR LINE 16 DECODER
LINE16
DATA SLICER
DATA
INPUT CONTROLLER
CLOCK REGENERATOR
PLL WITH 5MHz OSCILLATOR AND PHASE DETECTOR
CP
TIME BASE
OUTPUT CONTROLLER
I²C BUS TRANSMITTER
40-BIT REGISTER
40-BIT LATCH
MULTIPLEXER
REFERENCES AND POWER-ON RESET
SERIAL CLOCK INPUT
SERIAL DATA INPUT/OUTPUT
N.C.
EXTERNAL RESET INPUT
VP
TEST CLOCK PULSE
+5V VP
A.GND
D.GND
DIGITAL SUPPLY VOLTAGE
ANALOGUE SUPPLY VOLTAGE

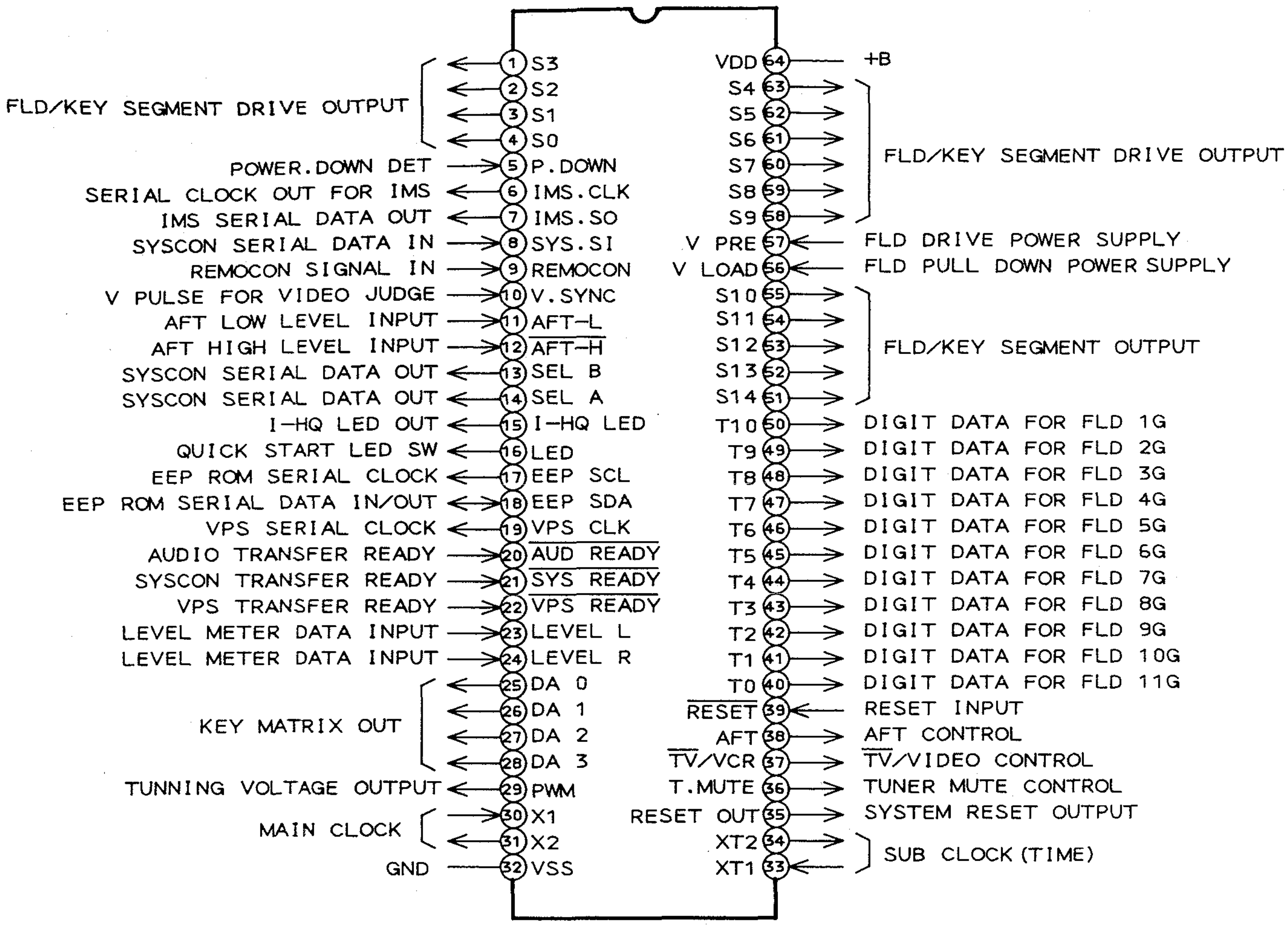
SAA5190 (TELETEXT VIDEO PROCESSOR)


VIDEO COMPOSITE SYNC OUTPUT (VCS)
PULSE TIMING CAPACITOR
PULSE TIMING RESISTOR
SANDCASTLE INPUT PULSE (PL / CBB)
FILTER 1
FILTER 2
VIDEO RECORDER MODE INPUT (VCR)
OSCILLATOR INPUT
OSCILLATOR OUTPUT
Vcc (+12V)
TEXT COMPOSITE SYNC INPUT (TCS) OR SCAN COMPOSITE SYNC INPUT (SCS)
COMPOSITE VIDEO INPUT
BLACK LEVEL
PULSE GENERATOR
HORIZONTAL PHASE DETECTOR
VOLTAGE CONTR. OSCILLATOR
SENSE 'NO INPUT'
ADAPTIVE SYNC SEPARATOR
DUAL POLARITY BUFFER
SENSE 'NO LOAD'
ADAPTIVE DATA SLICER
LATCHES
CLOCK PHASE DETECTOR
SENSE EXTERNAL DATA
PHASE SHIFTER
OSCILLATOR ÷2
GAIN SWITCH
HF LOSS COMPEN-SATOR
6MHz CLOCK OUTPUT (F6)
TELETEXT DATA OUTPUT (TTD)
TELETEXT CLOCK OUTPUT (TTC)
CLOCK FILTER
GND
VIDEO INPUT LEVEL SELECT
HF FILTER
STORE HF
SYNC OUTPUT
STORE AMPLITUDE
STORE ZERO LEVEL
DATA TIMING
EXTERNAL DATA INPUT
STORE PHASE
CRYSTAL

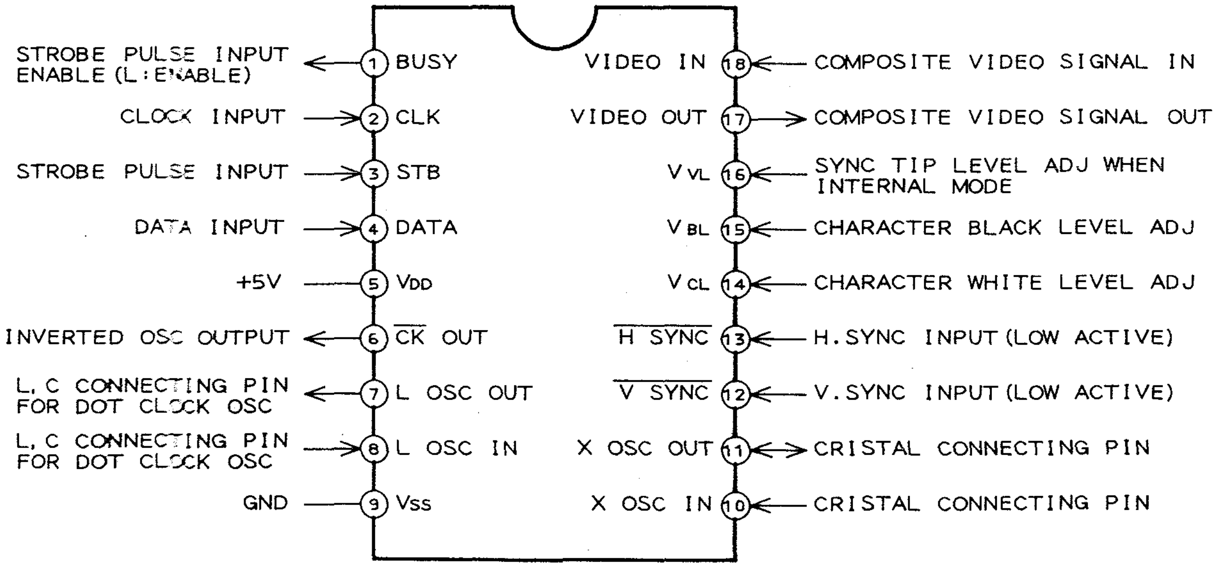
X2402P (128 × 8 BIT SERIAL TYPE EEP ROM)


VDD
8
VSS
4
SDA
5
SCL
6
START STOP LOGIC
CONTROL LOGIC
START CYCLE
H.V.GENERATION TIMING & CONTROL
LOAD
INC
WORD ADDRESS COUNTER
XDEC
32
E²PROM 32×32
32
5
2
R/W̄
YDEC
8
CK
PIN
DATA REGISTER
D OUT
D OUT ACK

μPD75217 HFX OPP1 (OPERATION MI-COM)


FLD/KEY SEGMENT DRIVE OUTPUT
① S3
② S2
③ S1
④ S0
POWER.DOWN DET ⑤ P.DOWN
SERIAL CLOCK OUT FOR IMS ⑥ IMS.CLK
IMS SERIAL DATA OUT ⑦ IMS.SO
SYSCON SERIAL DATA IN ⑧ SYS.SI
REMOCON SIGNAL IN ⑨ REMOCON
V PULSE FOR VIDEO JUDGE ⑩ V.SYNC
AFT LOW LEVEL INPUT ⑪ AFT-L
AFT HIGH LEVEL INPUT ⑫ AFT-H
SYSCON SERIAL DATA OUT ⑬ SEL B
SYSCON SERIAL DATA OUT ⑭ SEL A
I-HQ LED OUT ⑮ I-HQ LED
QUICK START LED SW ⑯ LED
EEP ROM SERIAL CLOCK ⑰ EEP SCL
EEP ROM SERIAL DATA IN/OUT ⑱ EEP SDA
VPS SERIAL CLOCK ⑲ VPS CLK
AUDIO TRANSFER READY ⑳ AUD READY
SYSCON TRANSFER READY ㉑ SYS READY
VPS TRANSFER READY ㉒ VPS READY
LEVEL METER DATA INPUT ㉓ LEVEL L
LEVEL METER DATA INPUT ㉔ LEVEL R
KEY MATRIX OUT
㉕ DA 0
㉖ DA 1
㉗ DA 2
㉘ DA 3
TUNNING VOLTAGE OUTPUT ㉙ PWM
MAIN CLOCK
㉚ X1
㉛ X2
GND ㉜ VSS
VDD (64) +B
S4 (63)
S5 (62)
S6 (61)
S7 (60)
S8 (59)
S9 (58)
FLD/KEY SEGMENT DRIVE OUTPUT
V PRE (57) FLD DRIVE POWER SUPPLY
V LOAD (56) FLD PULL DOWN POWER SUPPLY
S10 (55)
S11 (54)
S12 (53)
S13 (52)
S14 (51)
FLD/KEY SEGMENT OUTPUT
T10 (50) DIGIT DATA FOR FLD 1G
T9 (49) DIGIT DATA FOR FLD 2G
T8 (48) DIGIT DATA FOR FLD 3G
T7 (47) DIGIT DATA FOR FLD 4G
T6 (46) DIGIT DATA FOR FLD 5G
T5 (45) DIGIT DATA FOR FLD 6G
T4 (44) DIGIT DATA FOR FLD 7G
T3 (43) DIGIT DATA FOR FLD 8G
T2 (42) DIGIT DATA FOR FLD 9G
T1 (41) DIGIT DATA FOR FLD 10G
T0 (40) DIGIT DATA FOR FLD 11G
RESET (39) RESET INPUT
AFT (38) AFT CONTROL
TV/VCR (37) TV/VIDEO CONTROL
T.MUTE (36) TUNER MUTE CONTROL
RESET OUT (35) SYSTEM RESET OUTPUT
XT2 (34)
XT1 (33)
SUB CLOCK (TIME)

μPD6450 (CHARACTER GENERATOR)


STROBE PULSE INPUT ENABLE (L:ENABLE) ① BUSY
CLOCK INPUT ② CLK
STROBE PULSE INPUT ③ STB
DATA INPUT ④ DATA
+5V ⑤ VDD
INVERTED OSC OUTPUT ⑥ CK OUT
L, C CONNECTING PIN FOR DOT CLOCK OSC ⑦ L OSC OUT
L, C CONNECTING PIN FOR DOT CLOCK OSC ⑧ L OSC IN
GND ⑨ Vss
VIDEO IN ⑱ COMPOSITE VIDEO SIGNAL IN
VIDEO OUT ⑰ COMPOSITE VIDEO SIGNAL OUT
VVL ⑯ SYNC TIP LEVEL ADJ WHEN INTERNAL MODE
VBL ⑮ CHARACTER BLACK LEVEL ADJ
VCL ⑭ CHARACTER WHITE LEVEL ADJ
H SYNC ⑬ H.SYNC INPUT (LOW ACTIVE)
V SYNC ⑫ V.SYNC INPUT (LOW ACTIVE)
X OSC OUT ⑪ CRISTAL CONNECTING PIN
X OSC IN ⑩ CRISTAL CONNECTING PIN